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A RUSSIAN GRAIN ELEVATOR.

BY E. LEE HEIDENREICH, M. E.

Editor American Elevator and Grain Trade:—The following is an extract in translation of a report in the *Celski Chasain* from our agents in St. Petersburg, on the recently erected grain elevator at Jeletz, Russia, and inasmuch this represents the first Russian venture on elevator construction and contains many characteristic features, we hereby submit it, thinking it may interest your readers in general and American elevator owners in particular.

Yours truly,
E. LEE HEIDENREICH & Co.,
101 Metropolitan Block, Chicago.

The 28th day of September (Oct. 10 according to our calendar) the first grain elevator in Russia was opened at Jeletz, Orloffski Gov., amid great and enthusiastic demonstrations—in the presence of the Governor, a committee from the Ministry of the Interior, consisting of Messrs. A. C. Ermoloff, D. A. Timir jazeff and Mr. Schokowski—and a delegation of nobles from Orloff and neighboring states.

During the impressive religious and civic ceremonies 102 telegrams were received; among others from the Imperial Ministry of Finances and Domains, Senator Von Plevé and Count Ignatieff, congratulating the City of Jeletz with the attained success in taking the great advance step that is to bring Russia on a level with other grain exporting countries, and expressing their hopes that this great example would soon be taken by other cities.

The Jeletz elevator is built by the City of Jeletz and the Brjanski Railway Co., at the enormous cost of 214,000 roubles, of which the city paid 79,300 and the railway company 135,000.

It is located near the city limits in a triangle between two railroads, Orlovski Grazkoi and a branch of the Rjaskoi Vjacemskoi Railway, very conveniently for railway and country trade.

As shown in the accompanying views a track is run on each side of this elevator and the boiler house located between them at a distance from the main building.

The elevator proper has a capacity of 400,000 poud (about 275,000 bushels), is 63 feet wide by 128 feet long, and 82 feet from the basement to the roof; 105 feet to top of cupola.

The basement is formed by an excavation 10 feet deep with 3 to 4 feet wide retaining walls on all sides. The 55 piers are placed in rows and are each 7 feet square for the

support of the bins. Two conveyors, *a*, are run longitudinally, bringing the grain toward the front and discharging it in the elevator boots *c*. One conveyor, *b*, runs across the building, and is very ingeniously arranged so as to carry grain on its top in one direction and on its under side in the opposite way, tripping the grain off on either one of the conveyors *a*. These conveyors are all made of rubber belting and carried on wooden rollers the same as in our American elevators. The grain is received from cars or wagons on both sides of the elevator and through openings *g*, spouted down on the cross belt *b*, conveyed to the elevator legs *f* and elevated to the cupola.

The central part of the elevator is occupied by seventy-two bins 10 feet 6 inches by 10 feet 6 inches by 58 feet

placed two conveyors, *h h*, running toward the rear of the building, each distributing the grain wherever desired by means of an iron tripper, *j*, running on a steel track. In the front the double cross conveyor, *i*, receives the grain and trips it onto the aforesaid conveyors *h*. This feature of running a belt conveyor in one direction and using both sides for transporting grain in opposite directions has not to my knowledge been employed in America to date, and elevator builders and owners would do well in keeping this very simple device in mind.

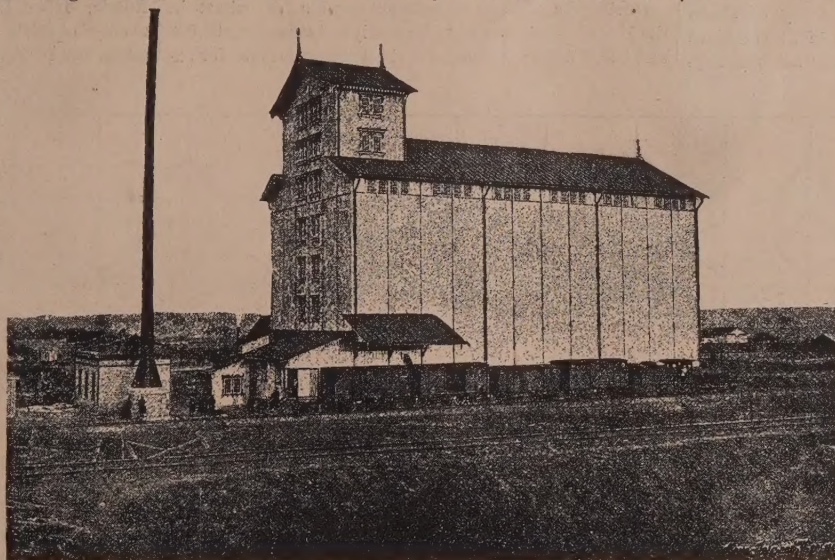
The cupola proper is 42 feet high and divided into three floors, where the cleaning and weighing of the grain takes place. Below the one elevator head are located two cleaners, *t*, from which the dust is blown out of the building and screenings spouted down on the side. Under the cleaners are two scales, *M*, where the grain is automatically weighed and recorded—only 600 pounds at the time—and then spouted onto the cross conveyor *i* for distribution by main conveyors, *h*, or for shipment through the two car spouts *n*.

Under the second elevator head is located two oat cleaners, *s*, with scales, spouts, etc., as before.

All this machinery is driven from a countershaft on bin floor, driven in turn by a large belt transmission from below, where the engine house is located directly adjoining the front of the elevator. The 40-horse power engine is set on a strong foundation and receives steam from a tubular boiler in the boiler house *o*. The boiler is fed by a pulsometer and two injectors from a fifty-foot deep well in front of the boiler house.

On each side of the engine house is a bagging shed, *p*, receiving grain from the pockets *e* through ten bagging spouts *r*. The storing bins are furnished by thermometrical appliances, consisting of gas pipes extending through the grain, provided with thin rubber caps or balloons at the top. When the grain has the proper temperature these balloons hang down, but should the heat increase, the air in the gas pipe will expand and fill the miniature balloons, which is a signal for ventilating the particular bin by transferring its contents to another pocket. This has proved to be a very satisfactory safeguard against heated grain, and may be well worthy of consideration by our elevator men. The device is cheap and reflects credit on the inventor.

As will be readily understood, the Jeletz elevator is adapted as well for transferring of grain as for storing, as



THE NEW ELEVATOR AT JELETZ, RUSSIA.

high; 12 bents longitudinally of six bins each. Of these, two bins, *ee*, are pockets for bagging of the grain, and two are occupied by the stairs and driving belt. The bin walls are built of 2½-inch stuff spiked flatwise 8 inches wide at bottom and 6 inches at the top, spiked every 8 inches with 10d nails. Each bin has a capacity of about 4,000 bushels. The first story posts are placed like an inverted pyramid cut off against the piers, only leaving a square opening in the bottom of each bin.

Great pains was taken in the selection of the wood for this building. Every stick was boiled in huge kettles under a heavy pressure, driving all the juice out of it, and then carefully kiln dried. The roof over the bin floor rests on wooden posts, properly braced, and is covered with shingles and galvanized iron. On this floor are

grain may be taken from one side of the elevator, elevated, cleaned, weighed and spouted to the opposite side to cars or wagons, and vice versa. The capacity for each elevator leg is about 1,700 bushels per hour—thus 3,400 bushels may be handled in total per hour.

Of course this elevator is now considered more in the light of an experiment, and no money has been spared to demonstrate the advantages of different details. To raise the Jeletz elevator to the American standard it has been decided to introduce American cleaning machinery, and for future elevators benefit by the experience of American engineers as far as the local circumstances will permit it. The government has placed the Jeletz elevator in a class between No. 1 and No. 2 of the railway classes, whereby very satisfactory privileges are granted to them. A chief grain inspector has been appointed, and every car of grain is sampled and sealed by a lead seal, giving the grade of the grain.

Although the "Zemstwo" or city corporation of Jeletz as well as the Brjanski Railroad Company, have lost money on this first venture, their careful inquiries into the systems and details of American grain elevators and their deliberate experimenting at home, indicate that they some day will reap a rich harvest from their very creditable efforts in forwarding the principal means of development of their large country and bring Russia forward to the proper place in the grain producing countries of the world.

WHEAT HERE AND ABROAD.

The bull traders in wheat futures are just now anxiously scanning the horizon and straining their eyes like Gehazi of old to catch sight of some little storm-cloud which may be the basis for a cry of alarm about the supply of the chief food staple of the civilized world. For some weeks the price of wheat has been flop-

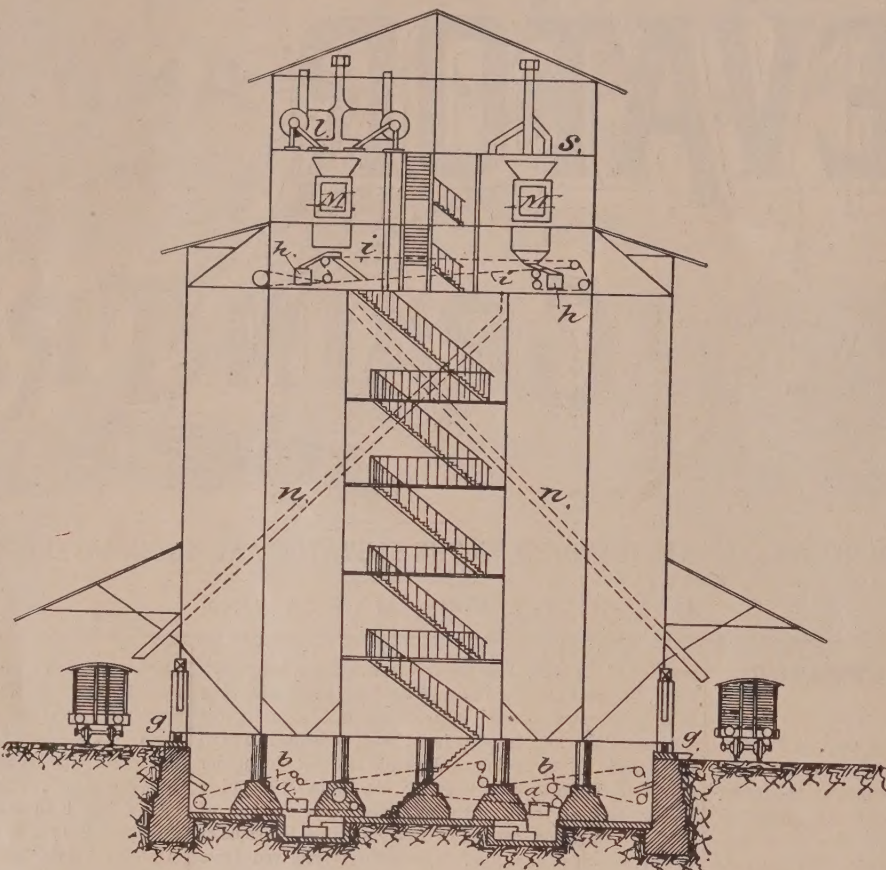
sis, however deftly wrought out on paper. In the meantime a bracing up of the price of wheat would be gratifying to the farmers, who find much consolation in dollar wheat and sublime satisfaction when they can get more for it or any decent price above the low-price years of

about 40,000,000 bushels will be required for home consumption and the surplus will not be sufficient for the increased population of the next five years, and the prediction is made that before 1900 our wheat production will be entirely insufficient for home necessities. Suppose we

have a population of 100,000,000 early in the first decade of the next century. These people will require 500,000,000 bushels of wheat, which is eighty to one hundred millions over our present crop. That will be our requirement in 1906 at the present rate of increase in population. Inability to raise 500,000,000 bushels of wheat will result either from the exhaustion of all the wheat lands in the country or because we will have ceased to be an industrious nation and have become one of those "effete dynasties" the congressmen talk about. But, as a matter of fact, the 500,000,000 bushels of wheat could be grown on the 37,986,717 acres of winter and spring wheat sown in 1880 with an average season and a little more painstaking in cultivation, and when the extensive area of wheat land yet to be developed in the Northwest and on the Pacific coast is taken into consideration it is evident that six to seven hundred millions of bushels is not an extravagant estimate, even allowing for the contraction of the wheat area in the older states.

Now as to the market. England's wheat acreage is vanishing, and she depends chiefly on foreign wheat and flour. As a market England is probably only comfortably profitable when the average price of wheat is 40 shillings a quarter. Our exports of flour and wheat thither have declined heavily during the last three years, the figures being 77,936,131

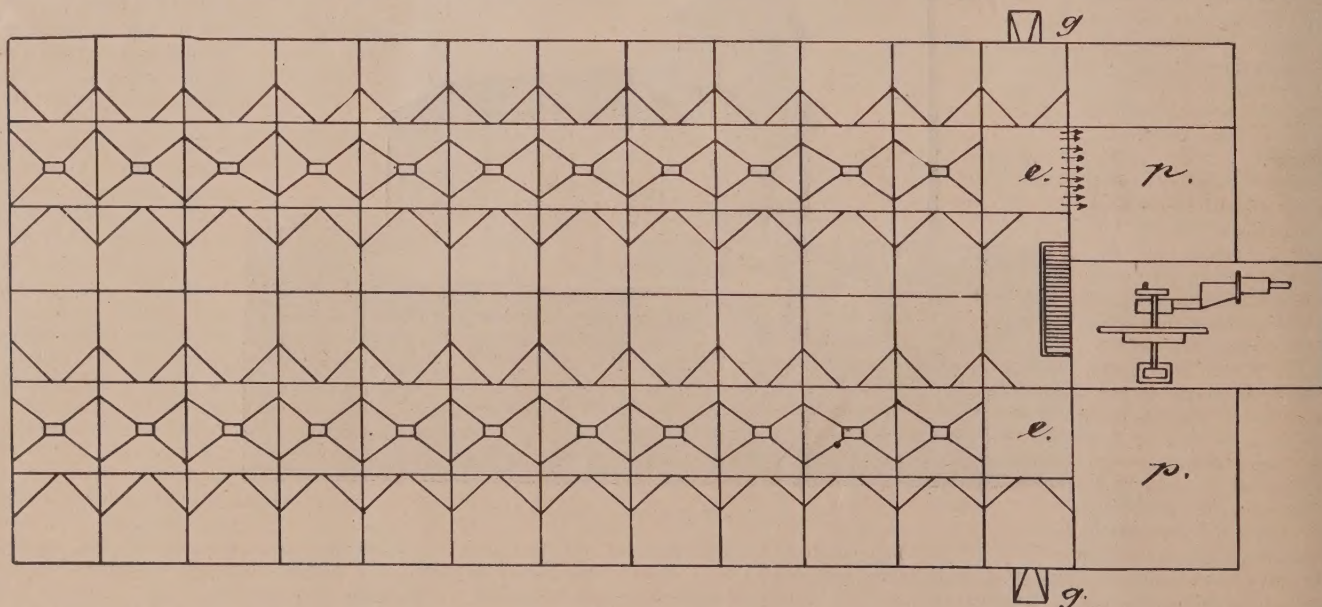
bushels in 1886, 98,334,584 bushels in 1887, and 57,889,650 bushels in 1888. England has drawn her supplies from Russia, from India largely, and these two countries, twenty to thirty and forty days' voyage from England for wheat stocks, against seven to ten days from the United



Cross Section.

1884, '85 '86 and '87. In the present incertitude what is the prospect for wheat in this country?

During the past decade the consumption of wheat in the United States has been annually between 320,000,000 and 330,000,000 bushels, and the average amount for ex-



Sectional Plan.

port about in the most undignified manner, and just now its future baffles the prophets. Rumors have floated about touching the jeopardy of the winter wheat crop, the improved export demand, the alleged inability of Russia and India to supply England's necessities, and the decreasing visible supply in the United States. The old and thread bare European war rumor has played an occasional and feeble part in this newsmongering as usual, but people generally are growing weary of the iteration and do not care to pin their faith to the ancient hypothe-

sis, however deftly wrought out on paper. In the meantime a bracing up of the price of wheat would be gratifying to the farmers, who find much consolation in dollar wheat and sublime satisfaction when they can get more for it or any decent price above the low-price years of

States are often quoted as our formidable rivals in wheat. Russia's wheat acreage, however, does not exceed 32,000,000 acres, and the average yield is less than nine bushels to the acre, and the producer receives only one-third the price paid in London. The yield is very irregular in amount. Last year Russia sold 21,396,000 cwt. to England, against 5,523,000 in 1887, while our exports of wheat to England last year fell off 15,857,000 cwt.—significant figures.

As for India, she is only second to this country now as

a feeder of England, and her output of wheat has more than once affected the price of wheat here, and whenever prices are manipulated by speculators to the artificial stage we are shut out of competition with India. Great improvements have been made in wheat cultivation in India of late. Careful attention is given by the government to seeds and agricultural implements. Bengal has a department of agriculture; great attention is paid to excluding dirt from wheat shipped and it is no longer true that generally in India the crudest methods of wheat culture are employed. The wheat acreage is about 28,000,000 acres, and the area has extended even with low prices in England. The average yield is between nine and ten bushels per acre. The low cost of production and the freights, chiefly water, are features in India's favor also. But both in India and Russia the peasantry grow wheat under the lash of the usurious money lender, and they get a bare subsistence from their crops. The large landholders in Russia do better, using improved machinery,

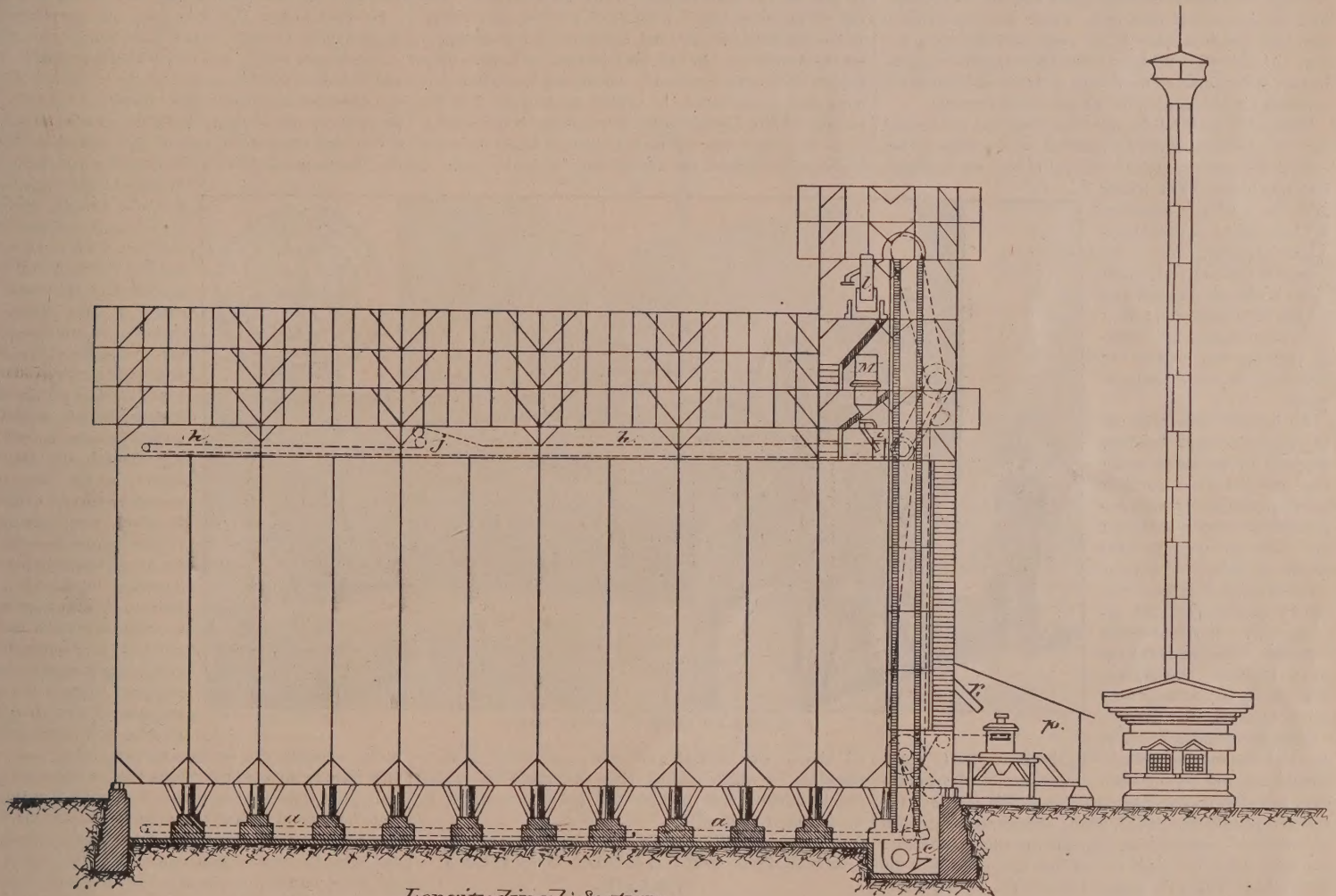
bushels of wheat to feed our own people, we need not fear that foreign wheat fields will drive us out of the world's markets, nor need we doubt that within that time there will be years of European vicissitudes—crop failures, wars—which will stimulate prices and increase our wheat acreage, and that we shall have learned more thoroughly the art of restoring strength to soils exhausted by reckless cultivation. During the last twenty years England has paid out for food to foreign countries \$2,402,907,537, of which \$655,515,274 was for wheat and flour. She cannot supply these necessities herself, and we, her "next-of-kin," will always come in for a large percentage of the business.—*Pioneer Press.*

OUR FUTURE GRAIN FIELDS

The vast extent of our country, and especially the vastness of the area of country suitable for the production of wheat which as yet remains untilled, frequently inspires

fertile, and seems equally adapted to the production of wheat, corn, oats, flax, potatoes, onions and grass. In passing through the counties of Douglass and Ottertail the scenery is unusually beautiful, as one is scarcely out of sight of some handsome lake, coupled with rolling woodland and patches of prairie.

"On reaching Fargo one enters the valley of the Red River of the North. Here is a belt of country extending at least to Grand Forks, a distance of about eighty miles, which is twenty or more miles in width. This is an unbroken prairie, save here and there a narrow belt of timber along the river, and the few small streams which find their way to it through this great meadow. This comparatively small portion of Northeastern Dakota contains more than a million of acres of the choicest wheat land, and in summer about one-third of this productive valley is waving with wheat. Directly westward of this valley the country becomes more rolling and diversified, but none the less adapted to wheat growing. For hundreds



Longitudinal Section.

but the failure of the rye crop in Russia at once reduced wheat exports to the minimum, as the grain is required for home consumption. The Indian wheat fields are 6,000 miles from Liverpool, 2,000 miles further than our Mississippi valley wheat fields, and the route is subject to sudden interruption by war, always possible. Even with the Russian supply, Europe is not independent of America. The average deficiency in European wheat production is about 170,000,000 bushels, even with the increased acreage since 1880 of 3,000,000 acres. England's Australasian colonies have a wheat acreage of less than 3,500,000 acres, with frequent crop failures. Australia only exported 20,000,000 bushels of wheat to England last year. As for Canada, she hardly may be called a wheat exporting country, as she imports a large quantity of wheat and flour, and in one of her best years, 1885, the wheat export was only 2,295,000 bushels, a good deal of which was grown in the United States. The wheat acreage in Ontario and Manitoba is less than 2,000,000 acres, and the acreage in Ontario is decreasing, while in Manitoba four crops out of the six between 1881 and 1887 were injured by frost. The South American wheat fields, in Chili and the Argentine Republic, do not yet supply England with enough wheat to feed her two or three weeks in the year.

Putting these facts together it would appear that, while twenty years from now we shall have to raise 500,000,000

travelers to try and impress the rest of the world with its immensity. Mr. M. M. Frisselle, who, since the last crop was harvested, has traveled through parts of Minnesota, Dakota, Montana and Washington, tells in the *Country Gentleman* of the great wheat fields we are to have in the Northwest in the future. Mr. Frisselle notes the shifting of the wheat producing centers from New York sixty years ago—when the most popular brand was "Genesee Superfine, Rochester, N. Y.," and the mills of Rochester, Baltimore and Philadelphia supplied the greater part of the flour found in the Eastern markets—to the fields of Western Minnesota. Unlike Erastus Wiman, who predicts that the center of the wheat-producing belt is going north into Canada, Mr. Frisselle rightly says it is going west through Dakota, Montana, Washington, and thinks that Alaska, too, may take a turn at producing wheat.

Mr. Frisselle says: "In the month of October I left the great flour making center of the continent (Minneapolis), and traveled about 400 miles to the northwest, along the line of the Manitoba Railroad, through or rather into the best wheat producing section of this country. Along that portion of the journey within the state of Minnesota the land is more or less rolling, interspersed with timber of maple, oak, elm and basswood, numerous streams and a great number of lakes of pure water. No region could be better adapted to a varied agriculture, as the soil is

of miles through this great territory and into Montana the country is peculiarly inviting by reason of its fertile soil, healthful climate and rapid development through the easy means by which the country is settled.

"Minnesota, Dakota and Montana all give promise of great things for the future in agricultural productions. In extent they contain more arable land than a half dozen states like New York, and a large portion of it is good farming land, capable of producing the best of hard wheat, besides other grains and vegetables common to this latitude. We are lost in calculation when we attempt to estimate the amount which will be produced ten or thirty years hence as the country is naturally developed by settlement. It seems to me that in this region alone there is land enough of first quality to give a farm to every young man in the country who has an ambition to till the soil."

One week recently the amount of grain in store at Indianapolis, Ind., was very small, there being only 7,000 bushels of corn and 155,796 bushels of wheat. The *Indianapolis Journal*, commenting upon the light holdings, says: "At no time since this city has made any pretensions of being a grain center has the holding been so light." There must be something wrong with Indianapolis grain men, for last year's corn crop was the largest we ever had.

WORRELL'S IMPROVED STEAM DRIER.

The accompanying cut is an excellent representation of a new machine for drying grain, cornmeal, starch feed, etc., using either live or exhaust steam, or both combined, for the heating medium. Although this drier widely differs in construction and application of heat, its evaporating action is similar to the same inventor's rotary drier, already familiar to our readers, which has been in successful use for six years. Therefore, only a concise description will be given.

The apparatus consists essentially of an inclined double-walled cylinder of the best boiler plate, with flush interior joints and countersunk rivets, supported by iron legs, and surrounded by a thick jacket of wood, with intervening air spaces. The interior rotating agitator, resembling a paddle wheel in cross section, of the same length as the heating cylinder, is rigidly constructed of hollow shafting, wrought iron wheels and angle bars, and carried by cross-bars and journals at each end. These details are clearly seen in the sectional view in the upper part of the engraving. Also showing the longitudinal partition for supporting the jacket, bracing the double cylinder, and providing conduits for distributing the air and steam currents.

The perforated rollers over the front end is a special and valuable attachment for pressing out a portion of the excessive amount of water contained in very wet materials like starch feed. For drying grain or meal this auxiliary is displaced by a simple air-trapped feeder. The discharge at the back end, not in view, is also air-trapped, and gives a high delivery—a very convenient feature for directly packing the product or spouting it some distance away.

An injector blower in the perpendicular vapor conduit, supplied by the small steam pipe seen just above the feed hopper, creates a governable positive circulation of the hot air currents through the whole apparatus. In some cases an exhausting fan is supplied in preference to this arrangement. Non-conducting wooden covers close both ends of the machine. The gearing is so clearly shown as to need no explanation.

Exhaust or waste steam is led into the heating cylinder by the bent pipe (a much smaller one will answer when live steam is used) from below, and after traveling backward and forward along the passage already mentioned, finally escapes, together with its waters of condensation, through the short pipe under the back end. The air is drawn into the openings at the front, thence along the avenue beneath the jacket, where its temperature is greatly increased by contact with and radiation of the hot cylinder. Now it enters the drying chamber at the rear, absorbs its load of moisture from the damp product, and is ejected through the breeching and vapor pipe in front.

In operation the damp material in the hopper drops down through the squeezer or feeder and breeching into the hot evaporating chamber. Here it is repeatedly taken up by the agitator, and falls in numerous thin streams, extending the whole length of the cylinder, as represented in the small cut. In this separated condition every particle is repeatedly subjected to the influence of the hot air currents, which rapidly absorb and remove the moisture in the form of vapor. Owing to the inclination of the apparatus, as this action continues, the product is gradually carried to the opposite end of the chamber, and finally discharged in a thoroughly dried condition.

This machine is claimed to be perfectly suited to the requirements of grain dealers, as by the use of exhaust steam and large volume of air it will remove the moisture rapidly from damp cereals at such a low temperature as to leave no objectionable smell, or kill the life germ of the grain, while, moreover, by reducing the air supply and the use of live or superheated steam, the temperature of the interior chamber can be increased to the degree necessary for kiln drying meal or grain. The attention of oat-

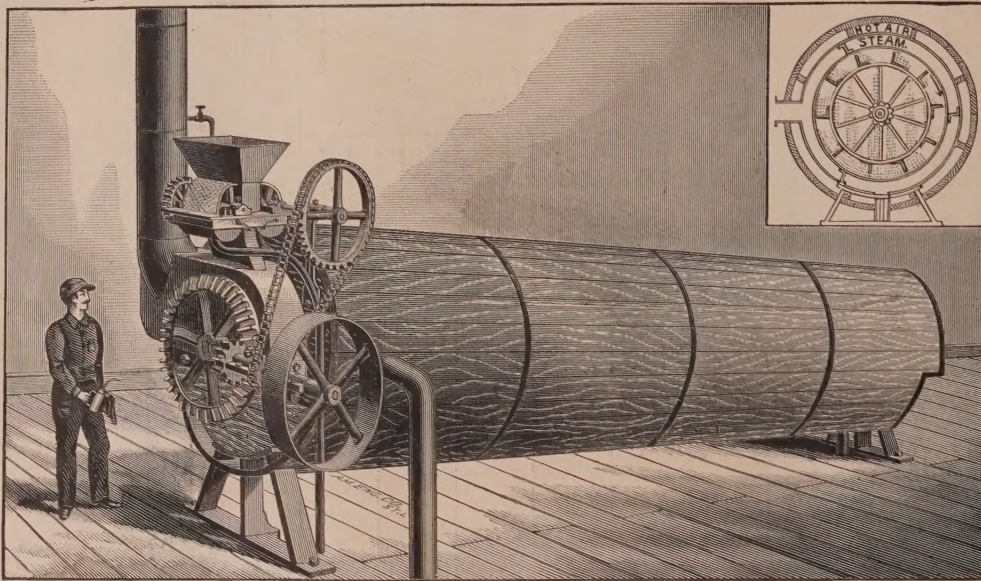
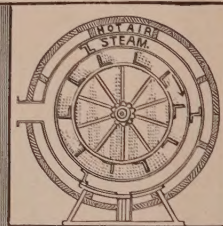
meal manufacturers is called to this point. As this machine unites large capacity with much rigidity, and is comparatively of light weight, the inventor contemplates their early construction in a portable form to use in connection with three hing engines and small elevators. Such driers will be of great benefit in farming communities using heading machines where it is generally preferable to thresh the grain directly from the field.

The especial points of merit claimed for this machine are summarized by the inventor as follows: "Its perfect results by the use of escape or waste steam; positive air and steam circulation; large heating surfaces, and no heat wasted; the great amount of surface of the damp material favorably exposed to the hot air currents; durability, large capacity simplicity and economy of construction and operation, and moderate amount of motive power required." It is adapted for drying meal, degerminated corn products, and hominy, and the inventor is confident this machine is just what corn millers want. He informs us that he has been engaged in the same business, during which he operated a number of different meal driers, all lacking sufficient air and steam circulation so amply provided for here. In fact, his endeavors to obviate these defects led him to devote his whole time to the improvement and manufacture of drying apparatus. For the purpose of kiln drying the heating cylinder is very strong, so as to permit the use of live steam at boiler pressure. It is equally efficient for drying damp or musty grain of

of the Canadian wheat was 7s. 8d. in 1886, but had risen to 8s. 4d. in 1888. Thus we cannot shut our eyes to the fact that it is simply the advance in our price which has handicapped us in the great market for wheat, and that so long as the supply remains abundantly able to meet the demand, we cannot hope with our price at 8s. 4d. per cwt. to compete successfully with countries who can place the article on the market at 7s. 8d. It is all very well for Sir Charles Tupper to urge the necessity of encouraging our trade with the mother country; but with the latter commerce is simply business, with which sentiment has nothing to do. Great Britain will purchase her food and supplies from those who will sell them the cheapest, and she is quite willing to deal with Canada upon these terms; but, depend upon it, the day is very far distant when, upsetting her present fiscal policy, she will say to her people, "you must pay more for wheat now, in order that I may assist Canada and help her farmers." If England has given up "protecting" her own farmers, how can we expect her to "protect" ours?

Now it is evident that from some cause or other the cost of producing wheat in Canada has become too heavy for us to compete with other countries where prices are low, and it will be well for us to face the situation squarely and endeavor to discover the remedy for the evil. That protection is not accountable for the unsatisfactory decline in Canada's wheat trade may be gathered from the fact that Germany and other countries under a protective tariff

increased their wheat exports to Great Britain, during the years, the statistics of which we have given, and we cannot help thinking that the explanation of this to a great extent is that those other countries do not keep up and tax the people with nine governments for every four and a half millions of inhabitants. This is the heavy load with which Canada is weighted, and though the Hon. Mr. Foster in his able Budget speech is reported to have said in effect, that taxation and civilization go hand in hand, we do not suppose that he for a moment intended to convey the idea that the more heavily a people are taxed the more civilized they must be. A certain amount of taxation is necessary to carry on the government of any country efficiently; but when there are



WORRELL'S IMPROVED STEAM DRIER.

all kinds. For further particulars and prices of these machines, of which smaller sizes are made, the reader should address the patentee and manufacturer, S. E. WORRELL, Hannibal, Mo.

DECLINE OF CANADA'S WHEAT TRADE.

In our September (1888) issue we had an article upon "Russian Wheat," wherein we pointed out the danger Canada ran in competing for the English market, by the increased cost of production and the consequent necessity of demanding a higher figure than other countries for her wheat. That this warning was not untimely has been clearly illustrated in a recent speech, by Sir Charles Tupper in which he gave statistics proving that whereas the total imports of wheat into Great Britain in 1888 had increased nearly ten million cwts. over those of 1886, or about 20 per cent., the imports of Canada alone had fallen off almost two millions, or about 66 per cent. during the same period. To place the matter more plainly before our readers, we will give the exact figures and values, which are as follows:

Total Imports.	Value.	Canadian Imports.	Value.
cwts.	ster.	cwts.	ster.
1886. 47,404,344	£17,888,155	3,080,964	£1,182,728
1888. 57,224,934	21,971,331	1,089,728	434,385

This exhibit every one must acknowledge discloses a very serious state of things, and one which is not improved if we seek the reason thereof, for by taking the average relative prices of the wheat as given above, we find that whereas the price of the total imports shows only a trifling variation during the two years mentioned, being about 7s. 7d. and 7s. 8d. respectively, the average price

of nine governments to be supported instead of one, you not only have to increase the "bona fide" taxation very materially, but when the population is so small that the legitimate business of each of these sub-governments (if we may use the expression) takes up a mere trifling amount of time and labor, illegitimate employment creeps in, to meet which the people are improperly taxed or, to speak more to the point, politically robbed. This is the cancer which is sucking out the life-blood of Canada, for if a railway company is taxed it will probably increase its charge on the transit of grain; if a bank or a fire insurance company is taxed, each will put it on in its charge to the farmer for the advance or the insurance on the same grain, and if this meddling taxation is civilization we should be glad to have a description of barbarism. Until Canada rids herself by some means or other of this incubus of over-legislation and its necessary adjunct of over-taxation, she will always stand at a disadvantage in competing for a place in the world's markets.—*Montreal Finance Chronicle.*

The grain shovellers at Buffalo, N. Y., did not go on a strike as was anticipated. A meeting was called to decide whether to strike or not, but it broke up in a row, and instead of striking for higher wages they struck for blood.

The corn shipped to Duluth from Nebraska is being shipped to Buffalo by water. The Omaha road has threatened to cut the rate on corn to Duluth, but it is not likely that it would maintain a low rate long for competing lines and the grain men of Chicago and St. Louis would stubbornly oppose it. Duluth may some day become a great corn center, but not at the expense of Chicago or St. Louis.

LAWS AGAINST DEALING IN FUTURES.

The lawmakers of Missouri are joining in the effort made by those of several other states to prevent the buying or selling of farm produce, stocks, bonds, etc., within their limits for future delivery. In doing this they profess to be acting in accordance with the Constitution adopted 100 years ago by the United States with intent to "secure the blessings of liberty." That document was supposed to guarantee to the citizen the right to act as he pleased so long as his actions did not trench upon the rights and liberties of others. Apparently these legislators do not stop to consider that the right to agree to do at some time in the future that which it is perfectly proper to do to-day belongs to every free man, and can be wrested from him only by a practical despotism.

Apart from its unconstitutionality the policy is a short-sighted one, and to carry it out would probably be to inflict a heavy blow upon the interests which it is sought to benefit by the passage of laws that prohibit trading, except for immediate delivery. A great deal of the buying from farmers in the early part of each crop year is done by men who do not expect to sell directly to consumers and would not operate, but that they count upon being able to transfer the responsibility of holding the property—some of it for several months—before it is wanted for actual eating by man or beast. The man who buys or sells ahead assumes a portion of that risk whether the produce be in his possession or not, and is willing to take greater chances than he would be if not satisfied that another can be found willing to relieve him of the load whenever he wishes to relinquish it. It is scarcely overstating the case to say that to carry the tail end of a crop would cost twice as much as now if buying and selling for future delivery could be successfully prohibited. The man standing in the gap would insist on a margin sufficient to cover the items of possible deterioration in using value as well as loss by fluctuations in price and due allowance for use of capital. He would thus have the seller at his mercy, and probably the latter would soon find himself returning to the prices paid for grain and live stock before the speculative era was started by the war excitement a little more than a quarter of a century ago. The farmer who is old enough to remember how little was received then by the first seller of hogs and grain, and who is sufficiently sensible to reflect on the cheapening in processes since effected by the introduction of machinery on the farm, will have only one other thing to think of before hesitating to indorse the repressive policy. That is, that the lessened cost of transportation per mile has immensely widened the area of marketable production, and thus increased the competition among producers to an extent nearly sufficient to offset the reduction, except for those of them who live comparatively near to the consumer. To reduce the number of buyers by abolishing those who are alleged to belong only to the speculative class would certainly be to cut down the prices realized by the producer for such of his crops as he has to sell.

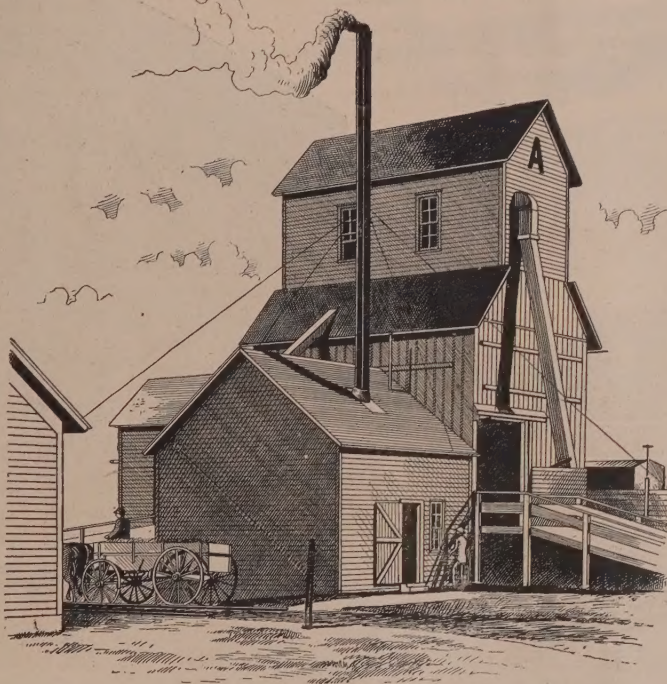
Undoubtedly a great deal of gambling is indulged in under the cover of "business," both on the Board of Trade and the Stock Exchange. This may be discouraged by appropriate checks, but the attempt to pull it up by the roots may well be answered by a reference to the Scripture advice not to destroy the tares lest the wheat be also ruined in the process. A legitimate application of the proposed rules would forbid the grocer from contracting for a supply of sugar a month ahead, and even cut off the grain buyer in the city from buying wheat or corn in the country to be delivered to him in the place where he transacts his usual business. It would render it obligatory on the holder of produce in one locality to send it elsewhere to be sold on consignment in every case, thus putting himself entirely at the mercy of a reduced number of buyers who would find it all the easier to form a trust, as they could count on the exclusion of all competitors not provided with cash to pay for and storehouses in which to receive the stuff at the earliest possible moment of actual delivery. Such methods would soon pall upon an intelligent community and incite a universal demand for a return to former conditions under which

everybody is protected in his right to buy so long as he is prepared to live up to his contracts at the time of maturity, whether that be on the spot or at some specified time in the future.—*Chicago Tribune.*

A REMODELED ELEVATOR.

This is the season of the year when grain men should be getting their buildings in shape for the next crop. The farmers are busy planting, so the elevator men have little to do aside from making repairs. There is scarcely an elevator in the country but what needs some repairing or overhauling. Then there are improvements, which are always in order, as an evidence of prosperity. The shovel house and flat warehouse that were used last summer must be fitted up with horse power machinery. The horse power elevator that handled the crop of 1888, and perhaps several crops before, must be replaced by a steam outfit to take care of the crop of 1889.

We present herewith a cut of an old horse power elevator at Milford, Neb., that has been remodeled and equipped with steam power and all machinery necessary to make it a first-class grain elevator. The owner, Joseph Spelts, bought all the machinery for the new house of



ELEVATOR OF JOSEPH SPELTZ AT MILFORD, NEB.

THE FROST MFG. Co. of Galesburg, Ill. The elevator contains a 10 to 12-horse power center crank engine, a 15-horse power tubular boiler, a 300 to 400 bushels per hour dump sheller, with a 500 bushels per hour double revolving screen corn cleaner, and elevator buckets, 13x7, with twenty-five feet of screw conveyor.

Notwithstanding all this machinery, Mr. Spelts reports that he easily runs his house to its full capacity with fifty pounds of steam, and he pronounces it a "daisy outfit."

THE FROST MFG. Co., Galesburg, Ill., would be pleased to hear from any one contemplating a change, either from shovel house to horse power, or from horse power to steam power, as they furnish everything used in or around a steam or horse power elevator. Upon application they will mail a copy of their complete Catalogue D, which has just been published for the season of 1889.

Winnipeg, Man., is to have a summer carnival and wheat palace. Minneapolis seems to be lacking in enterprise. Her rival, St. Paul, has an ice palace every cold winter, and now Winnipeg, which is not the largest wheat center of the Northwest, is to have a wheat palace.

The Secretary of State for India once called a meeting of grain merchants to consider the question of impurities in grain, and particularly in Indian wheat, which at that time was largely mixed with dirt. When one wealthy corn factor was asked what he knew of impurities in grain he said: "Well, gentlemen, I have sometimes found pebbles in my wheat, but I am not inclined to think they lessen its value. I think you will agree with me when you observe this sample," exhibiting a four-carat diamond set in a ring, which he had found in a sack of wheat.

GRAIN BUYERS' UNION OF DAKOTA.

The Grain Buyers' Union of Dakota met at Aberdeen April 17, 1889, at 8 o'clock p. m., in the City Hall. The meeting was called to order by President J. W. Abbott of Webster, who stated the order of business to be the drafting and adoption of a constitution and by-laws, taking of steps to secure a charter, the transaction of other business, and the consideration of such other matters as would prove of benefit to the union and its members.

The meeting was well attended, there being forty-five grain buyers present. Through the kindness of Mr. J. M. Carr, the efficient secretary of the union, we are enabled to give our readers a good account of the meeting, and the following full list of those present: J. M. Cheatham, C. H. Bates, J. M. Carr, Geo. T. Kasson, R. D. Laddow, J. G. Cleland, J. W. Christie, Geo. McCabe and Fred A. Pratt of Aberdeen; C. R. Kimball and Jas. McTighe of Ordway; M. W. Cowley, Wm. Robb, Jake Brewer, C. C. Van Lowegin and Frank Mix of Eureka; C. A. B. Fox of Lake Preston; P. H. McKenzie and M. S. Marther of Houghten; Frank Carey, E. L. Cochran, Ed Williams and J. G. Wheeler of Ipswich; Lewis Gilbert and G. F. Fletcher of Columbia; R. B. Peterson, T. R. May, J. J. McCaughey and R. J. Henderson of Northville; J. W. Abbott and J. M. Stanher of Webster; W. O. Abbott of Mina; E. M. Call of Bathe; C. L. Peck of Mansfield; M. Bordman and M. M. Fowler of Warner; Victor Anderson of Clark; F. D. James of James; Joseph Marx, Bristol; S. B. Walker, Monango; W. H. Nichols, Henry; G. C. Barney, Wilmot; J. H. Fitzgerald, Newark; Dey Le Suer and O. Butler of Langford.

The meeting was one of great interest to all concerned, and during the adoption of the constitution and by-laws several important questions arose and were thoroughly discussed. During the session there were a number of warm debates on topics affecting the grain buyers of Dakota.

The union is organized for the common benefit and protection of its members, for the purpose of promoting harmony and good will between grain buyers and grain dealers, and to bring them into a closer relationship; also to increase the standard of efficiency among buyers, thus making their services more valuable to their employers. The union will not in any way antagonize the interest of the elevator companies. All traveling auditors for said companies are made honorary members of the union. None but competent men of experience and unquestionable integrity will be admitted to membership. A list of all members in good standing who are out of employment will be kept on record in the office of the secretary, and he shall make arrangements to secure situations for them.

The union is certainly what the wheat buyers of Dakota have long been in need of, and will be a benefit to employers as well as to employees. The union adopted as its motto, "Justice to All," and for a badge or emblem a pair of balances with the word "Justice" between the chains that support the scale pans. The union will surely increase its membership, and by the time of the next meeting, which will be held Wednesday, Aug. 7, the secretary predicts it will have over a hundred members. We hope that by that time we may have the pleasure of telling our readers that the union has at least 100 members, and that it is proving a howling success.

The present officers of the union are as follows: President, J. W. Abbott of Webster; vice-president, R. D. Laddow of Aberdeen; secretary, J. M. Carr of Aberdeen; treasurer, C. H. Bates of Aberdeen.

At the meeting it was decided to hold a wheat buyers' picnic June 11, at Pickeral Lakes, north of Webster. The lakes are in the reservation, and are surrounded by beautiful groves. There will be rowing, fishing and games, and a general good time is anticipated, which of course will be realized.

Foreign visitor—"What is your national flower?" Minneapolis belle—"Wheat."

The Peruvian Government has changed its import duties so that a number of things are admitted free of duty. Belting for machinery is one of them.

BURNING OF ELEVATORS AT NEW YORK.

The largest and most destructive fire that has visited New York City in many years swept the east bank of the North River, from Fifty-ninth to about Sixty-fifth streets, on the afternoon and evening of April 19. The fire originated in a building belonging to the New York Central Railroad, which was occupied by a lard refinery and a storage warehouse. The great heat generated by the burning of this building and its inflammable contents set fire to the immense elevator "A" belonging to the New York Central Railroad Company.

Elevator "A" was 400 feet long, 100 feet wide and 200

sive part of the buildings were the foundations, which may be saved.

Many bullish rumors were set afloat as to the large amount of wheat in the elevators, but they were only rumors, for the elevators only contained 14,290 bushels of wheat. They also contained 23,974 bushels of corn, 34,738 bushels of oats, 13,858 bushels of rye, and 22,260 bushels of barley, making a total of less than 113,000 bushels of grain. There was very little insurance on the Central's property, so the loss was very heavy.

The Central will immediately rebuild one of the elevators, which will be enough to take care of the business. It was expected when the elevators were built that the ocean steamers would go right up to them and load, but they did not do so. The old practice of loading from

OUTLOOK FOR EXPORTATION OF CORN.

It is fortunate for our Western states, particularly those holding a surplus of corn, that ocean freights this summer are likely to rule very low, for this will increase the export demand for grain. The London *Economist* states that the great increase in shipbuilding which has now been going on for more than a year past has at length begun to tell upon freight rates. It will be remembered that the total output of new shipping in the United Kingdom last year amounted to over 900,000 tons, while at the beginning of the current year the contracts reached the enormous amount of about 1,250,000 tons. Much of this shipping has not yet been taken in hand, but already it is



ONE OF THE BURNED ELEVATORS.

feet high. It had a capacity of 1,500,000 bushels. The walls up to about the third story were of brick, and above that the building was sheathed with corrugated iron and protected by slate. Despite the fact that the building was considered fireproof against any fire that could approach it from the outside, and that many streams of water were being thrown upon that portion nearest the fire, it was soon wrapped in flames. Nothing could withstand the great heat, the iron shriveled up like withered leaves, and the slates fell from the sides of the building like red-hot rain. All hope of saving any part of elevator "A" was lost, and the firemen turned their attention to elevator "B," which was 500 feet further up the river.

Elevator "B" belonged to the same company and was nearly as large as "A," and its structure was similar to that of "A." It was not long until it, too, was on fire, and in a few hours they were both a smoldering heap of ruins. Elevator "B" was built three years ago, and was valued at \$750,000. Elevator "A" was built thirteen years ago, and was valued at \$800,000. The most expen-

boats has continued, so there will be no need of rebuilding both elevators. The company has made all the necessary arrangements for the handling of grain, so the grain trade will not experience any delays, or be inconvenienced.

Millers in Ohio, Michigan and Illinois are drawing their supplies of good wheat from Chicago elevators.—*New York Produce Exchange Reporter*.

Minneapolis reports of May 1 show that country elevators in the Northwest on that date contained 3 705,000 bushels of wheat, being a decrease of 1,505,000 bushels during April.

According to a recent report of the Bureau of Statistics breadstuffs constituted 17.17 per cent. of the total value of our exports last year. The total value of our exports was \$679,610,000. Cotton was the leading article of export, the amount shipped being valued at \$225,120,000, or 33.13 per cent. of the total. Breadstuffs come second on the list, with a total of \$116,660,000.

evident that competition in the carrying trade is becoming very keen, for the new shipping is in excess of the trade requirements. Already Black Sea freights have fallen about 30 per cent.

A large corn crop is not always followed by large receipts of corn at interior or seaboard points. The movement is largely influenced by the prevailing price. When prices are low, more is retained by farmers for feeding purposes, and when high a greater quantity is sold for distribution. This was notable during the months of May and June during the two cereal years of 1886-'87 and 1887-'88, as will be seen by following statement:

	Bushels.
Crop of 1886.....	1,665,411,000
Interior receipts, May-June.....	10,235,300
Price corn in Chicago.....	35½ to 39½ cents
Crop of 1887.....	1,456,161,000
Interior receipts, May-June.....	19,666,055
Price in Chicago.....	46¼ to 60 cents

The probabilities now are that the present low price will cause a decrease in receipts until an advance in price shall again stimulate the movement.—*New York Post*.

LATE PATENTS.

Issued on April 16, 1889.

POWER MECHANISM FOR BALING PRESSES.—George Ertel, Quincy, Ill. (No model.) No. 401,424. Serial No. 288,065. Filed Oct. 15, 1888.

BELTING.—Robert Dick, Greenhead, Glasgow, County of Lanark, Scotland. (No model.) No. 401,642. Serial No. 243,901. Filed July 9, 1887. Patented in England Oct. 14, 1885, No. 12,253, and June 25, 1887, No. 9,043.

METHOD OF MAKING FLAT BELTS.—Robert Dick, Greenhead, Glasgow, County of Lanark, Scotland. (No model.) No. 401,643. Serial No. 243,902. Filed July 9, 1887. Patented in England Oct. 14, 1885, No. 12,254, and June 25, 1887, No. 9,043.

DUST COLLECTOR.—Nelson Leduc and Albert E. Weeks, Lockport, N. Y., said Weeks assignor to said Leduc. (No model.) No. 401,503. Serial No. 298,513. Filed March 5, 1887. Renewed Feb. 2, 1889.

GRAIN CLIPPING MACHINE.—Rosia W. Welch, Baltimore, Md., assignor of one-half to John M. Knight, same place. (No model.) No. 401,667. Serial No. 281,535. Filed July 31, 1888.

MAGNETIC SEPARATOR.—Gurdon Conkling, Glens Falls, N. Y. (No model.) No. 401,415. Serial No. 282,365. Filed Aug. 9, 1888.

Issued on April 23, 1889.

BELTING FOR MACHINERY.—William C. Edge, Newark, N. J. (Model.) No. 401,779. Serial No. 296,979. Filed Jan. 21, 1889.

GRAIN SEPARATOR.—Stephen Freeman, Racine, Wis. (No model.) No. 402,012. Serial No. 277,753. Filed June 21, 1888.

GRINDING MILL.—James B. Allfree, Indianapolis, Ind., assignor of one-half to Robert Shriver and Harrison Swartzwelder, Cumberland, Md. (No model.) No. 401,872. Serial No. 248,555. Filed Sept. 1, 1887.

CLUTCH.—Louis Goddu, Winchester, assignor to James W. Brooks, principal trustee, Cambridge, and Frank F. Stanley associate trustee, Swampscott, Mass. (No model.) No. 402,014. Serial No. 279,423. Filed July 9, 1888.

Issued on April 30, 1889.

CORN SHELLER.—Curtis Goddard, Alliance, Ohio. (No model.) No. 402,238. Serial No. 293,325. Filed Feb. 1, 1889.

ELEVATOR FOR GRAIN SEPARATORS.—Stacy B. Hart, Peoria, Ill. (No model.) No. 402,522. Serial No. 285,000. Filed Sept. 10, 1888.

GRAIN SEPARATOR AND CLEANER.—Michael N. Laufenburg, Stockton, Cal., assignor to the Stockton Combined Harvester and Agricultural Works, same place. (No model.) No. 402,462. Serial No. 267,275. Filed March 15, 1888.

VALVE-OPERATING MECHANISM FOR GRAIN SCALES.—Charles H. Cooley, Hartford, Conn., assignor to the Pratt & Whitney Co., same place. (No model.) No. 402,510. Serial No. 290,635. Filed Nov. 12, 1888.

COTTON SEED CRUSHER.—John J. Woodward and Peyton B. Bibb, Montgomery, Ala. (No model.) No. 402,289. Serial No. 293,626. Filed Dec. 14, 1888.

Issued on May 7, 1889.

BELT GUIDE WHEEL.—Edwin Benjamin, South Evanston, Ill., assignor to the Benjamin Machine Co., of Illinois. (No model.) No. 402,504. Serial No. 295,670. Filed Jan. 7, 1889.

BELT SHIFTER.—Philip Medart, St. Louis, Mo., assignor of one-half to William Medart, same place. (No model.) No. 402,758. Serial No. 304,490. Filed Feb. 19, 1889.

BELT SHIPPER AND LOCK.—Francis W. Mallett, New York, N. Y., assignor to Dennis Frisbie, same place. (No model.) No. 402,603. Serial No. 295,848. Filed Jan. 9, 1889.

BELT TIGHTENER.—Charles W. Jones, London, Ontario, Canada. (No model.) No. 403,048. Serial No. 279,249. Filed July 7, 1888.

FEED MILL.—Guilford D. Rowell, Appleton, Wis. (No model.) No. 402,618. Serial No. 288,130. Filed Oct. 15, 1888.

GRAIN SCOURER.—Henry Wilhelm, Oneida Mills, assignor of one-half to Benton Smith, near Minerva, Ohio. (No model.) No. 403,020. Serial No. 294,042. Filed Dec. 19, 1888.

MAGNETIC SEPARATOR.—Gurdon Conkling, Glens Falls, N. Y. (No model.) No. 402,904. Serial No. 281,496. Filed July 31, 1888.

MAGNETIC SEPARATOR.—Hiram S. Maxim, London, England. (No model.) No. 402,684. Serial No. 228,785. Filed Feb. 24, 1887. Patented in England April 5, 1886, No. 4,751.

GRAIN-WEIGHING MACHINE.—LeRoy C. Tryon, Marseilles, assignor of one-half to Clarence E. Tryon, Ottawa, Ill. (No model.) No. 402,872. Serial No. 288,877. Filed Oct. 22, 1888.

THE GARRY METALLIC ROOFING AND SIDING.

We need not expatiate to our readers on the advantages of metallic sheathing for elevators and all industrial establishments. These advantages have long been known and appreciated by the public. Herewith are given engravings that represent the metallic roofing and siding manufactured by the well-known Garry Iron Roofing Co. of Cleveland, Ohio. Owners of elevators, mills, etc., will be particularly interested in the wares of this house. In their catalogue for 1889 they show the various uses of



FIG. 1.

sheet iron in the construction of all kinds of buildings. The Garry patent cap roofing is manufactured in lengths to suit the required roof, and it can be put up in accord-

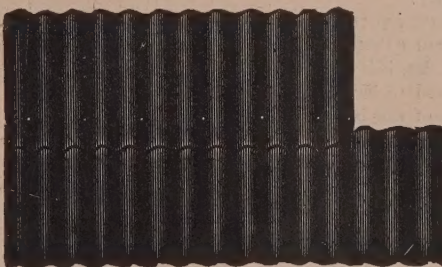


FIG. 2.

ance with any design or sketch. They manufacture the adjustable cap roofing from sheet steel and galvanized iron, especially for roofing purposes. They also manu-

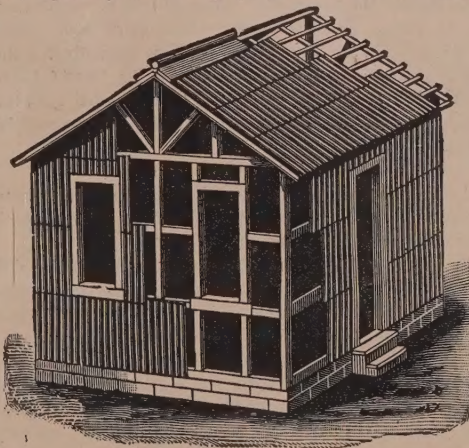


FIG. 3.

facture corrugated iron for roofing, siding, ceiling and partitions for fireproof building.

Fig. 1 shows a sheet of their second size medium corrugated iron, corrugations 3 inches by $\frac{3}{8}$ -inch deep. Regular lengths of sheets are 6, 7, 8, 9 and 10 feet, and 26 inches wide. This style and size of corrugation is more largely used than any other kind for roofing purposes. The best feature about this kind of roofing is that the outside cor-

rugations on the sheets are $\frac{1}{4}$ -inch higher than those in the center of the sheet. These outside corrugations are also made so that the outer edges are nearly vertical instead of flaring, as it is with iron corrugated with other machines, which makes a smooth and better joint and not so liable to leak.

Fig. 2 shows a siding designed more particularly for grain elevators. The corrugations are made crosswise of the sheet, so when applied they will run up and down the building, giving more elasticity to the iron, and preventing its buckling, as other iron siding does when the building settles. In laying the sheet is lapped on the one below about one inch, then nailed through the upper sheet about one inch above the lap, thus allowing for movement of the iron as the building settles. It can also be used for ceiling other buildings. The regular size of sheets is 38 and 77 inches long and 26 inches wide. Fig. 3 shows the application to a building.

The manufacturers of the Garry Metallic Roofing and Siding, GARRY IRON ROOFING CO. of Cleveland, Ohio, will be pleased to send their new catalogue to applicants, and give any desired information to interested parties.



The Diamond Feed Mill Mfg. Co. have succeeded McLaughlin, Sheldon & Co., manufacturers of feed mills at Owatonna, Minn.

B. S. Constant has purchased the plant and business of the King Drill Co. of Logansport, Ind., and will continue the business at the same place.

The Jeffrey Mfg. Co. of Columbus, Ohio, report that they are doing a thriving business and that the demand for their elevating and conveying machinery continues unabated.

W. G. Avery, President of the W. G. Avery Mfg. Co., Cleveland Ohio, has received notice from the Commissioner of Patents for Canada that a Canadian patent has been issued to him covering elevator buckets, welded, brazed and fused.

The Case Manufacturing Company's establishment at Columbus, Ohio, was completely destroyed by fire on the night of May 10. Machinery, finished and unfinished stock were a total loss. Loss on machinery and stock is estimated at \$65,000, about covered by insurance.

GOVERNMENT CROP REPORT.

The Government Crop Report issued May 11 reports that the condition of winter wheat has advanced from 94 to 96, of rye from 93.9 to 96.5. The general average of winter barley is 96.9, of spring pasture 96.6, of mowing lands 96.3.

The winter wheat of the Ohio valley, while fully maintaining its April position, has had a scant supply of moisture, and fears of future decline of condition are entertained in case of a continued deficiency of rainfall. On the Atlantic slope the recent heavy rains have obviated the effects of previous deficiency. The plant is generally green and flourishing, but has not tillered well in localities inclining to dryness. High condition is reported in the South, though rust has appeared upon the wheat blades in some fields. The percentages of condition of states of principal production are: Ohio, 90; Michigan, 92; Indiana, 95; Illinois, 98; Missouri, 98; Kansas, 98; Texas, 88; in the East, New York and Pennsylvania average 96 and Maryland and Virginia 98.

Chinch bugs are reported in Missouri and Kansas, and in some instances elsewhere, without any indication of serious injury.

Spring plowing is much further advanced than on May 1 of last year. The percentage of plowing in preparing the seed bed and planting spring crops, not inclusive of after cultivation, which had already been done, is 83.6 per cent., leaving one-sixth to be done in May and June, mainly in Northern latitudes. Last year the percentage was 74.6. The average of a series of recent years has been about 71. This season is therefore unusually early. In some cases correspondents speak of delays from heavy rains, from labor of replanting and other causes, preventing still further advancement.

[Written expressly for the AMERICAN ELEVATOR AND GRAIN TRADE.]

THE GRAIN SITUATION.

TIMELY RAINS—THE GROWING SEASON FROM TWO TO THREE WEEKS IN ADVANCE OF AN AVERAGE—WINTER WHEAT HEADING OUT—GOOD PROSPECTS FOR AN AVERAGE CROP YET CONTINUE—SPRING WHEAT NEEDS RAIN, AND PLENTY OF IT—CORN MAKING A GOOD STAND—OATS IMPROVED—PROSPECTS FOR GRASS FAIR.

BY S. THORNTON K. PRIME.

No. V.

Up until the 13th inst. the crop conditions of the country have been very critical. It will take at least fourteen days longer before we shall be able to fully determine what effect the trying drouth has had upon the grass, spring wheat and oat crops of the country.

There has also been during the last thirty days a continued and rapid development of insect life, and in some areas of the country to an alarming and destructive degree.

Fortunately, however, all these extreme conditions are now changed, and the country seems just now in the middle of May to be opening up with improved and very encouraging crop prospects.

Another very remarkable condition of things was the unusually high degree of temperature throughout the Northern states, while in the Southern states the temperature was seasonable, being slightly cooler than usual along the Gulf and South Atlantic coast.

I must still report another unusual and extraordinary condition of things in the shape of hot winds, which blew for three days over the entire Northwest and Southwest, extending east as far as the lakes, north into the Dakotas, and south to the Ohio River, taking in the states east and west of the Mississippi River. For many years the country has not experienced such excessive heat, hot winds and drouth early in May as we have just passed through.

Even Kansas, which has been better watered and supplied with moisture than any other state this season in the winter wheat belt, was beginning to complain of the effects from these winds, for the reason that one day of such dry hot wind dried up more moisture than a week of normal weather.

Good rains have fallen recently on the Pacific coast, which must now practically insure the favorable crop prospects in California and Oregon.

I have taken the position in these semi-monthly reports that the crop outlook and final outcome this season depended entirely on copious rains at short intervals, and while we are now enjoying the effects and seeing wonderful changes in the general crop outlook, at the same time the facts are patent that there is yet no reserves of moisture, and that the crops are being fed purely on surface rains. The season so far has been a remarkable one in this respect, that while there has not been, and could not be with such a lack of moisture, any rapid growth of vegetation, at the same time we have been from two to three weeks in advance with all our spring operations, such as seeding and the planting of the corn crop. Now on the 15th of May the growing season may be said to be fairly upon us.

CORN.

The corn lands of the country have this spring been plowed and prepared under very favorable circumstances.

A dry winter and dry spring enabled farmers to plow and harrow, and the reports have all been that the corn fields seldom, if ever, were in better condition for planting.

I am in this report speaking of the crop as a whole, for I am fully aware that in Kansas and Missouri, where all the rain the present season seems to have centered and fallen, corn planting has been delayed, but I have long since learned that conditions in one state, be they either good or bad, seem to have very little effect when we come to make up the crop as a whole.

Therefore, it is perfectly safe and correct to say that, notwithstanding the conditions which have affected the growing spring crops, it would have been impossible to have had a better season for corn planting than the present one has proven.

The corn crop has all been planted from fourteen to twenty days earlier than last season. At this date in 1888

the ground was cold and wet, and these conditions continued even to an exaggerated state until the middle of June.

I well remember in making a trip from Chicago to Buffalo passing through the corn lands of Illinois, Ohio and Indiana, and found that the great majority of the crop was not over four to five inches high.

Another important and favorable fact with regard to the coming corn crop is this, that we have excellent good seed. The corn matured well in 1888, and so far reports as to a poor stand of corn are the exception rather than the rule. The rains which have fallen during the last two or three days have been general over the corn belt.

These rains were most timely, for the reason that the ground was very dry, and unless we had rains the corn crop would have come up very unevenly, and we should have heard more or less about a poor stand.

OATS.

The oat crop each year becomes more and more a very important factor in the general grain and farming interests of the country.

I think it has encroached very largely upon the corn acreage, and I believe that in Central Illinois, which eight or ten years ago was almost exclusively devoted to corn growing, the acreage of oats now is fully as large as that of corn. From all my reports I am not able to learn that there has been any decrease this season in the acreage owing to the present high price, and prospective higher price, of twine.

The oat crop is so easily put in, so easily gathered, and matures at a time when farmers need both feed and money, that there are hardly any conditions which can or have arisen to curtail the acreage of this most important crop, which is grown now in the states of Illinois, Indiana, Wisconsin, Iowa, Nebraska, Minnesota and Dakota.

For the last four weeks the oat crop has had to contend with very dry weather; the ground was excessively dry when the oats were put in.

On the 13th of April a timely rain fell, which brought up the crop and gave us everywhere a good stand of oats, but from that date until the 10th of the present month not a drop of rain fell in any of the great oat areas of the country.

I have reported in some areas that the oats are injured. Of course that is a question of opinion rather than one of facts, but it is not a question of discussion that the rains referred to have been the saving for the time being, at least, of this important crop.

The oats would have been, as a whole, very seriously injured without these timely rains. It is very remarkable that a crop will mature and can be made with so little rain, with the proviso that the rains be timely.

I have seen great crops of oats grown with only two good soaking rains from the date of seeding until heading time.

The present weather, therefore, could not be better for the oats. The ground is well covered, the crop four to five inches high, and under ordinary circumstances would not suffer for rain for four weeks at least.

As regards the reserves of old oats I do not think they are in excess, either in country elevators or in the hands of farmers. Very large deliveries were made during the first days of the present month, and by the first of June, I think, whatever oats are left will not move until the present crop status is determined, either one way or the other.

GRASS.

Another, and increasing every year, important crop to the country is the grass crop. The West increases each year its exports South and East of hay.

Large areas of our farm lands in the West are seeded to grass, both for rest and rotation of crop. It is probably now as profitable a crop as is grown, and there seems no limit to the demand for hay, and at very fair prices.

I think it is a very close question whether or not the dry weather of March, April, and a portion of May has not cut off to some considerable extent the yield of grass this season. Our pastures at the present time are very short, and grass has not stood out well.

The rain of the present week was most timely, and it saved the crop from being practically a short one. Of course this rain will help the grass vastly, but it does not look to me to-day as if we should have any larger crop than we did during the season of 1888, which was fairly an average one.

SPRING WHEAT

It is very difficult at the present time to give a satis-

factory statement as to the general prospects and outlook of the spring wheat crop further than this:

That it has not been as dry at this time of the year for many years in Northern Dakota and Minnesota. No rain fell last fall, and the small amount of snow this winter seemed to go off by evaporation, leaving the ground dry, and only one really good rain of any consequence has fallen this spring. The high winds have no doubt done a great deal of damage to the crop. The soil was very loose this spring, and where the grain was sown with seeders it is damaged all the way from 10 to 20 per cent.

The final outcome of this crop is purely a question of moisture and of copious moisture, and until the 1st of June it is purely guesswork to more than say to-day that the wheat is all up, that it has been affected by high winds, that it needs rain, and the prospects to-day are not up to an average yield per acre.

WINTER WHEAT.

While it is currently reported that the winter wheat prospects as a whole are better than they were on the 10th of April, still I do not incline to that opinion for this reason:

For the last thirty days the entire winter wheat belt, with the exception of Kansas and Missouri, has been subjected to very dry weather. There has also been a very great development of insect life, and the crop until the 13th of the present month certainly was not holding its own, and there was by no means that same evenness of general conditions which I have reported all along upon this crop.

The wheat has commenced to head out generally. As we have had practically no winter wheat plowed up or winter killed this makes a very important factor in increasing the general yield, and in my opinion is an offset to decrease in acreage.

Some of the early varieties of wheat will be harvested as early as the first week of June. The drouth seems to have been the most severe in Michigan, some portions of Northern Ohio and Indiana, and some counties in Southern Illinois have also suffered. The prospects in Tennessee and Kentucky are by no means as good as they were thirty days ago. Kansas and Missouri practically maintain their very high average which they have reported all along on this crop.

The prospects on the Pacific coast seem now to be assured.

CONCLUSIONS.

A most timely and widespread rainfall has completely changed the general crop prospects of the Southwest particularly, and the Northwest very materially, from the general outlook of the early portion of this month.

We have very little to discourage us and a great deal to encourage us—a season far in advance of an average one, but with a decided deficiency yet of moisture in all the great grain-growing areas of the country.

The success or failure of our crops now depends entirely on this question of moisture. Very many are predicting an exceedingly dry season. Certainly so far we have started in in that direction, and everything seems to me to point to it.

MEETING OF IOWA GRAIN DEALERS.

The Northwestern Iowa Grain Dealers' Association held a meeting at Sioux City, Iowa, April 11, to discuss the question of the best means of reaping the benefits of the recent decision of the Interstate Commerce Commission against the Chicago & Northwestern road in the case brought by the Northwestern Iowa Grain and Live Stock Shippers' Association in which discrimination was charged, in that the railroad granted lower rates to Chicago from points on its main line than points equally distant on branch lines. The decision ordered that the rates be so modified as to do away with all discrimination. The meeting was secret, but it was learned that the only action taken was the passage of a resolution to wait and see just what the road proposed to do under the decision. If the company shows a disposition to make rates from the various points of the same distance, then no action will be necessary. If not, then further relief will be sought from the Interstate Commission. It was also decided to make up cases and to recover overcharges that have been made.

"I am your debtor," said the man to the horse that had carried him safely on his journey. "Please then," calmly said the beast, "give me an oat to that effect."

COMMUNICATED

[We invite correspondence from every one in any way interested in the grain trade, on all topics connected therewith. We wish to see a general exchange of opinion on all subjects which pertain to the interests of the trade at large, or any branch of it.]

A PROSPEROUS FIRM.

Editor American Elevator and Grain Trade:—Inclosed find \$1 for AMERICAN ELEVATOR AND GRAIN TRADE for one year. We handle wheat and corn principally, and operate six steam elevators and several horse power houses

Respectfully,
Havana, Ill. McFADDEN & Co.

A NEW ELEVATOR IN MISSOURI.

Editor American Elevator and Grain Trade:—My employer, Mr. W. T. Gilliam, is building an improved elevator (Chase's plan) of about 60,000 bushels' capacity, to be ready for the next crop. Mr. Henry Keiser of Bloomington, Ill., has the contract to furnish the machinery and put it in place in the elevator. It will consist of two Caldwell Conveyors, each 80 feet long, a Barnard & Leas Separator, and the elevator with cast iron boots having a capacity of 1,000 bushels per hour.

Yours truly,
Gilliam, Mo. G. M. FOWLER.

HE JOINED THE BOOMERS.

Editor American Elevator and Grain Trade:—Some time ago I threw up my position in your city and joined the Oklahoma boomers. I had not been there long until I was deeply impressed with the fact that I was born and raised in the "Sucker State," and I am of the opinion that a man who is once a sucker is always a sucker. I luckily secured a good position in the principal elevator of this town while on my way back to Chicago, and expect to remain here. The firm take your journal, but as I do not like to sponge off of other people, I inclose \$1, for which you will please send me the AMERICAN ELEVATOR AND GRAIN TRADE for one year.

Very truly,
F. J. S.

CENTENNIAL CORN BREAD FOR ALL THE WORLD.

Editor American Elevator and Grain Trade:—In the affairs of the modern world there has not been a more notable conjunction of national epochs than that marked by the present year in France and America. And while the popular demonstrations have not been as great as on some occasions, yet the historic events are not the less momentous and suggestive.

The peaceful and admirable opening of the great Paris Exposition on the 6th inst. was beautiful and sublime in many respects. And it brings to mind the question of human food—that question that had so much to do with the underlying causes of the great French Revolution of 1789. And the grand display of the arts and industries of all nations with which the French celebrate it, and invite all nations to participate, certainly marks a great step forward in modern civilization. Still more will this be demonstrated if the question of food for all receives from that great Exposition and assemblage of nations the attention which humanity, commerce and religion alike demand that it should receive. Sixty years ago the people of this country knew nothing of the tomato as an article of human food. Twenty years ago it was only known and used for a few days in each year, merely during the time that the fruit could be gathered fresh from the gardens and used at once, but now scarcely a grocery store in the whole country but sells them all the year round—mostly canned—so as to be almost or quite equal to the fresh fruit, and thousands of housekeepers are never without a supply of their own growth, and put up by themselves at a very trifling cost. One hundred and twenty years ago the potato was scarcely known in all France as an article of human food, yet now its use there is as general as here. So with numerous other articles brought from the great unexplored storehouses of Nature for the use of mankind. But when we consider its many excellent qualities none remains so much neglected in the

whole Eastern Hemisphere as the great article of American corn, the foremost cereal of our country, as our country is also undeniably foremost in its cultivation and production in the whole world, and now the world needs more food, and we need more markets. And from the time of the memorable landing of the colonists at Jamestown and Plymouth to the present hour it has been a great reliance of the American people for breadstuff, and in those early days almost their sole dependence. But its greatest popular favor is when it asserts no kingship, but fairly takes its place according to its merit and the voluntary choice of its friends and the people.

Washington's favorite breakfast was corn cakes, and not much else. This at Mount Vernon was taken very early, and no other meal was served there except the dinner at 3 o'clock, which was what would now be termed "a square meal." Throughout the Southern states, even more than the Northern, corn bread has ever been a staple article of food with all classes, from the negro in his little cabin to the wealthy planter at his hospitable board, and so at hotels, on steamboats, etc. So "hominy" in the South, and "hulled corn" and "samp" in the Northern states, represent other forms in which "King Corn" has been invested by the people of these United States, to say nothing of "mush," "Indian pudding," "rye and Indian," or "Boston brown bread," etc. In Central America, and doubtless much of Mexico and South America, the national bread is "tortillas." This in Nicaragua is a very thin cake made of corn prepared like the New England hulled corn, and then pulverized by spreading on a smooth, flat stone, and using a round oblong stone as a "rolling pin." As Commissioner from Illinois, it is to be hoped that Mr. Spaulding and others at the Paris Exposition will be able to show to the world as fully as possible all the various excellent preparations of the Americas from our corn, whose future in the world of commerce as a breadstuff may yet be destined to equal wheat, or to feed as many people as either rice or wheat. Boards of Trade, states, cities, and the whole country should aid them in this if necessary.

Wise and beneficent commerce is yet to become the handmaid of Christian civilization in banishing famine from the earth, and it is not possible to overrate the importance of this American corn bread and food exhibit and distribution at the great Paris Exposition in this double Centennial year of France and America.

Respectfully,
W. THOMPSON STACKPOLE.
Fairbury, Ill., May 8, 1889.

THE EXCHANGES.

An annex is to be built to the Corn Exchange at Minneapolis.

Tickets of membership to the New York Produce Exchange have been dull at \$1,000@1,050.

The Board of Trade at Grand Rapids, Mich., will put up a \$200,000 building as soon as the plans are ready.

Mr. S. A. Jones of Tampa, Fla., recently addressed the Chicago Board of Trade directory on the Florida ship-canal scheme.

The directors of the Chicago Board of Trade recently suspended one of the members of the Board for five years for running a bucket shop.

The board of directors of the Chicago Board of Trade have taken steps which will probably put a stop to trading in privileges or puts and calls.

Two certificates of membership of the New York Produce Exchange, one of which does not participate in the gratuity fund, have been sold lately for \$1,050.

The directors of the Chicago Board of Trade have endorsed a memorial asking Congress to give \$1,000,000 subsidy for a line of steamers between Tampa, Fla., and Aspinwall.

William R. Foster, Jr., the absconding attorney for the trustees of the Gratuity Fund of the New York Produce Exchange, has been heard from in an obscure town in Mexico. It was discovered last September that by means of fictitious mortgages Foster had defrauded the Gratuity Fund of \$168,000. He disappeared, and although a number of detectives have been searching for him no trace of him was found until he wrote to members of the Exchange. There is a reward of \$5,000 offered for his arrest. The Gratuity Fund will only be out about \$78,000, as Foster's father has paid the trustees \$50,000, the amount that would have gone to his son under his will, and Foster had property at Bayport, L. I., which will bring about \$40,000.

ITEMS FROM ABROAD

The United Kingdom consumes 4,000,000 bushels of wheat and wheat flour weekly.

Zalter & Co., grain dealers at Berlin, have failed. Liabilities about \$360,000; assets small.

It is reported that a bill placing a heavy import duty on wheat, barley, oats and other grain will soon be introduced in the Belgian House of Deputies.

The French Government will soon lay a bill before the Chamber providing for exempting from import duties all wheat intended for starch making.

It is reported that the crop prospects in the southeastern part of Russia are not good, and that the merchants are not selling their wheat very readily.

The average price of wheat in England for the first thirty-two weeks of the English crop year was 31s. 6d. against 30s. 2d. for the corresponding period last year, and 32s. 7d. two years ago.

According to recent advices the export of maize from Russia and Roumania so far this season has only amounted to 1,119,654 bushels, against 4,044,946 bushels for the corresponding time of last year.

The most depressing feature in English agriculture is the ruinous low price of grain. Landlords farming their own lands, says the *Mark Lane Express*, have balance sheets in many instances showing a loss of over \$15 per acre.

A French paper, *LeMeunier*, says that protection in France has not given the good results which were promised when the Chamber was induced to vote the heavy import duties on wheat and other grain, and that the only result of the duties, so far, has been a rise in the price of bread.

Advices from Bombay state that sellers of the new crop of wheat do not seem disposed to meet buyers in the face of the almost certain prospect of a poor yield of wheat everywhere, except in the Punjab and Southern Mahratta country. The light monsoon rains, their early cessation, and the subsequent light winter rains has considerably curtailed the greater portion of this Presidency, the Berars and Central Provinces.

A process has been discovered by which beer made of barley grown in the United States will be as sparkling and bright as that from the bright-colored barley of Canada. It is thought that this will shut Canadian barley out of the United States, and an effort is being made to introduce it in England. Samples have been sent to that country, with which British experts are experimenting, to ascertain their fitness for the English markets.

The comparative fertility of the soils of France and England is being discussed in Paris, and it may be that the French agriculturist will be induced to use fertilizers that will make his land more productive. The average yield of wheat in France is 15 bushels per acre, while in England it is about 30 bushels per acre. The main difference is that England uses about 410,000 tons of fertilizers every year, which is more than four times as much as France uses to enrich three times as much soil.

Late advices from Australia show that there is even a greater deficiency in the wheat crop of the colonies than was at first reported. There is a deficiency of 8,750,000 bushels in New South Wales, Queensland and Tasmania, and an available surplus of 9,500,000 bushels in Victoria, South Australia and New Zealand, leaving a difference of 750,000 bushels. But some wheat has already been shipped to Europe, and more has been engaged. South Africa has been depending upon Australia for about 3,000,000 bushels a year, and some of its other neighbors have also been getting large quantities, so there will be a large deficiency for California to supply.

The Agricultural Department of the English Government has issued a report on the wheat and rice weevil in India, which is similar to the weevil that attacks wheat in this country and England. It is estimated that this insect damages Indian wheat exported \$750,000 a year. Nothing is done to prevent its attack, which is continued during the passage of the grain to Europe. The writer of the report recommends that before new grain is put into a granary or other storehouse, all old grain should be removed, and the whole place thoroughly cleaned, the walls and ceilings whitewashed, all cracks in the floor and corners filled up with fresh mortar, and the building disinfected with sulphur fumes.

The British Secretary of State for India has arranged a conference between millers and the various chairmen of the Chambers of Commerce throughout England to discuss the best means of improving the condition in which Indian wheat arrives in Great Britain. There is reason to believe that dirt and inferior seeds are mixed with Indian wheat to add to profits, and that the system of "fair average quality," by which the acceptance of cargoes is governed, lends itself to such frauds. It is proposed to provide that if cargoes contain an excess of 2 per cent. of such dirt and mixture there must be a reduction of price. It is claimed that shipments of Indian wheat contain 16 per cent. of dirt and inferior seeds.

ELEVATOR AND GRAIN NEWS

A flax mill is to be erected at Webster, S. D.
An elevator will be erected at La Moure, Dak.
A cotton-seed oil mill is projected at Waterloo, S. C.
A cotton-seed oil mill will be built at Greenwood, Miss.
A cotton-seed oil mill will probably be built at Ozan, Ark.

Kansas City men will build an elevator at Le Roy, Kan.

A \$50,000 cotton-seed oil mill is to be built at Jackson, Miss.

A cotton seed oil mill is to be erected at Hobgood, N. C.

W. S. Lybrook, grain merchant at Lincoln, Neb., has sold out.

E. B. Lewis will build a cotton-seed oil mill at Montezuma, Ga.

Lang & Co. have sold out their grain business at Wakefield, N. H.

V. W. Bush is closing out his grain business at Winchester, Ky.

S. J. Foster of Union Springs, Ala., will erect a cotton-seed oil mill.

Paul Bayeur, flour and grain dealer at Berthier, Quebec, has assigned.

Work has commenced on the new \$125,000 brewery at Macon, Ga.

Griffin Bros. & Co. have erected a fine elevator at Armington, Ill.

M. Kellner is closing out his grain and stock business at Cornlea, Neb.

W. N. Ritchie will build a cotton-seed oil mill at Scotland Neck, N. C.

The D. A. Martin Elevator Co., Minneapolis, Minn., has been dissolved.

B. Schmidt & Son of Lincoln, Ala., are enlarging their cotton-seed oil mill.

A. G. Clarkson will erect a 5-ton cotton-seed oil mill near Wateree, S. C.

Jno. Hurst & Co. will build an elevator and flour mill at Clarksville, Tenn.

Messrs. J. Martyn & Co. will erect a 30,000-bushel elevator at Alvinston, Ont.

W. D. Roberts & Co. are enlarging their cotton-seed oil mill at Dyersburg, Tenn.

Cattell & Co., grain brokers at New York City, N. Y., have dissolved partnership.

Bosworth & Brush, grain dealers at Leominster, Mass., have dissolved partnership.

Charles Stewart, grain and lumber dealer at Guthrie Center, Iowa has sold out.

A cotton-seed oil mill is being built at Tarboro, N. C., by the Conotoe Oil Mills Co.

Joseph Cushing & Co., flour and grain dealers at Winchendon, Mass., have sold out.

Thurnburn & Gifford, hay and grain dealers at Tarpon Springs, Fla., have sold out.

The United States Cotton-Seed Oil Co., will build a \$50,000 oil mill at Barnwell, S. C.

A three-story grain elevator is being erected at Macon, Ga., by Henley, Plant & Troy.

The Farmers' Alliance contemplate the erection of a cotton-seed oil mill at Elba, Ala.

Wunderlich & Michel, grain dealers at New Albany, Ind., have dissolved partnership.

Harris & Knudson, grain and coal dealers at Sibley, Iowa, have dissolved partnership.

Collins & Morton, hay and grain dealers at Cincinnati, Ohio, have dissolved partnership.

The Richmond County Farmers' Alliance will build a cotton-seed oil mill at Hector, N. C.

The Alliance Roller Mill Co., of Cisco, Tex., contemplate the erection of a grain elevator.

Arthur C. Melke and others will probably build a cotton seed oil mill at Lumberton, N. C.

N. E. Knudson has succeeded Harris, Knudson & Co. in the grain business at Manly, Iowa.

The Wilmington Oil Mills Co. has been incorporated at Hilton, N. C. The contract for the building has

been let and the work commenced. The building will be 300x100 feet and 50 feet high.

D. A. Brooks, Jr., & Co. contemplate the erection of a 50,000-bushel elevator at Sturgis, Ky.

The Capital City Oil Co., of Baton Rouge, La., have let the contract for a cotton-seed oil mill.

The Standard Ale Brewery will build a large brewery in Rochester, N. Y., to cost \$100,000.

William Bishop has sold his grain elevator at Clinton, Ill., to Mr. Thornton Snell for \$2,500.

During the past year the elevator at Leland, Iowa, has only handled 25,000 bushels of grain.

Work has been commenced on the Muscatine Oatmeal Co.'s new elevator at Muscatine, Iowa.

C. G. M. Bond, flour and grain dealer, formerly of Groton, has removed to Rock and, Mass.

Wood & Co., proprietors of the Covington Flour Mills, Covington, Tenn., will build an elevator.

Austin & Adams, grain, coal and live stock dealers at Upland, Neb., have dissolved partnership.

An elevator will be built at Carberry, Man., to take the place of the one recently destroyed by fire.

The Gus Leisy Brewing Co. has been incorporated at Peoria, Ill., with a capital stock of \$6,000.

The Grand Trunk Railway elevator and wharf at Collingwood, Ont., have been greatly improved.

R. W. Cannon and others have formed a company to build a cotton-seed oil mill at Abbeville, S. C.

The Atlantic Coast Line have let the contract for the erection of a grain elevator at Petersburg, Va.

H. Poehler & Co., general store and grain dealers at Henderson, Minn., have dissolved partnership.

Alfred T. Martin has been admitted to the firm of Coster & Martin, grain brokers at New York City.

Cannon & Johnson contemplate starting a cotton-seed oil mill of 15 tons' capacity at Garlandville, Ga.

Brooks, Mell & Co., wholesale grocers and grain dealers at Atlanta, Ga., discontinued business May 1.

The Indiana Brewing Co. of New Albany, Ind., has been incorporated with a capital stock of \$100,000.

The Darlington Fertilizer Co. of Darlington, S. C., has let the contract for a \$15,000 cotton-seed oil mill.

Rumsey & Buell, grain and provision commission merchants at Chicago, Ill., have dissolved partnership.

The Minneapolis and Dakota Elevator Co. of Minneapolis, Minn., has increased its capital stock \$30,000.

Cannon & Johnson contemplate the erection of a 15-ton cotton-seed oil mill at Garlandville, Ga., next winter.

Messrs. Smith & Brigham of Moosomin, Assa., contemplate building an elevator at that place this season.

The Vicksburg Cotton-Seed Oil Co. of Vicksburg, Miss., will double the capacity of their mill this season.

A permit has been issued to the M. Brand Brewing Co., of this city to erect a four-story factory, to cost \$24,000.

The Farmers' Alliance, of which W. A. Broughton is president, will build a cotton-seed oil mill at Madison, Ga.

G. W. Crane, Minneapolis, Minn., is filling orders from Claremont and Hutton, Dak., for grain elevator machinery.

A flax mill is to be built at Peru, Ind., by the Peru Board of Trade and the members of the Farmers' Institute.

W. T. Dennis is organizing a company at Talbotton, Ga., for the purpose of establishing a cotton-seed oil mill.

The Hauser & Sons Malting Co., has completed a new malt house and a 150,000-bushel elevator at St. Paul, Minn.

M. S. Adams, dealer in flour, feed and grain at South Royalton, Vt., has failed. Liabilities, \$60,000; assets, \$40,000.

Parties at Lar do, Mexico, recently placed an order with G. W. Crane, Minneapolis, Minn., for flour mill supplies.

Thomas P. Ivy of Boston, Mass., is organizing a company at Atalla, Ala., to erect a cotton-seed oil mill and a compress.

The partnership of M. Waterman & Co., grain commission merchants of San Francisco, Cal., has expired by limitation.

The United States Brewing Co. have been licensed to incorporate at Chicago, Ill., with a capital stock of \$3,000,000.

E. F. Very, grain dealer at Armington, Ill., has built a grain office and bank combined. He seems to be very prosperous.

Mr. George S. Haskell, dealer in seeds at Rockford, Ill., has failed. Liabilities \$100,000; assets \$50,000. It is said the failure is the result of a suit for \$5,000 growing out of an exchange of accommodation paper with A.

B. Cleveland, the New York seedsman who absconded a short time ago.

J. M. Gambill & Co. are building a five-story grain elevator at Roanoke, Va., which will have a capacity of 75,000 bushels.

James S. Wiley has erected an elevator at Colfax, Ill. Colfax is getting to be quite a grain market. It has three elevators now.

L. P. Van Norman, Hamel, Minn., recently purchased a line of supplies for his roller mill from G. W. Crane, Minneapolis, Minn.

Lewis Nittlestadt, Norfolk, Neb., recently placed in his elevator a Chicago Scales, purchased of G. W. Crane, Minneapolis, Minn.

George R. Foster & Co., grain and hay dealers at Jacksonville and Palatka, Fla., have been succeeded by Foster, Marvin & Haynes.

The Griffin Fertilizer and Manufacturing Co. of Griffin, Ga., have commenced work on the building for their 20-ton cotton-seed oil mill.

The Farmers' Alliance of Troy, Ala., have formed a company, with \$25,000 capital, to build a cotton-seed oil mill and fertilizer factory.

J. B. Agen, grain dealer and general store at Osage, Iowa, has taken a partner in his business. The style of the firm is Agen & Morse.

Rogers, Skinner & Co., wholesale grain and feed dealers at New York City, have dissolved partnership. Skinner, Bloom & Co. succeed.

E. W. Backus & Co., of Minneapolis, Minn., have purchased more of the Jeffrey Link Belting of G. W. Crane, Minneapolis, for their mill.

J. O. Smith, Casselton, Dak., recently placed Chicago Scales in his grain elevator. They were supplied by G. W. Crane of Minneapolis, Minn.

P. H. Stickle, Edgerly, Dak., recently purchased a complete shop outfit from G. W. Crane, Minneapolis, also entire blacksmith equipment.

The subscriptions to the Florence Cotton-Seed Oil Co. of Florence, S. C., have been secured and the charter applied for. The mill will soon be built.

The Hon. J. B. Wright will erect a 50,000-bushel flax-seed elevator at Lincoln, Neb. He says it is his intention to make it the finest elevator in the state.

The elevator of Mutchner, Higgins & Co. at Indianapolis, Ind., which was burned Feb. 12, has been rebuilt on a much more extensive and modern style.

Goldthrite & McCrea of Cooperstown, Dak., have during the past month purchased the supplies for their Case Roller Mill of G. W. Crane of Minneapolis.

Mr. Joseph Harris of Hazel Green, Ill., has purchased a home in Cuba City, Ill., and it is reported that he will build a large grain warehouse at the latter place.

The United Cotton-Seed Oil Co., of which E. H. Hawley of Philadelphia, Pa., is President, will, it is reported, build a \$50,000 cotton-seed oil mill at Selma, Ala.

G. W. Crane, Minneapolis, Minn., recently shipped one double-gear horse power to Melville, Edmonds & Buchanan of Minnesota, a so other elevator machinery.

The United States Warehouse Co. has been incorporated at Chicago with a capital stock of \$25,000. Incorporators, I. Ranson, M. C. Ranson and S. Casterline.

The Charlotte Cotton-Seed Oil and Fertilizer Co. has been organized at Charlotte, N. C., with a capital stock of \$200,000. The contract for the machinery has been let.

Messrs. W. & S. A. Gregg, Z. S. Kershaw, C. M. Covington and others, have organized a company at Florence, S. C., to erect a cotton-seed oil mill. Capital stock \$20,000.

J. S. Bartholomew of Grand Forks, N. Dak., recently purchased of G. W. Crane, Minneapolis, Minn., a 40-horse power engine and boiler and supplies for brick yard.

G. W. Crane, Minneapolis, Minn., General Agent for the Chicago Scales Co., recently shipped Chicago Scales to Northern Pacific elevators at Fairfield, Dry Creek and Waterloo, Wash.

G. W. Crane, Minneapolis, Minn., recently shipped a car of elevator machinery, consisting of complete elevator outfits, for two elevators of 60,000 bushels' capacity each, to points in Oregon.

George W. Kidd, the New York wholesale liquor dealer whose fortune is estimated at about \$10,000,000, has let contracts for the erection of a 5,000-bushel distillery at La Salle, Ill.

The Alabama Alliance Co. have purchased a site and will build a \$60,000 cotton-seed oil mill at Demopolis, Ala. Capt. J. C. Webb and Mr. George Leder are the principal stockholders.

A company has been organized with a capital stock of \$10,000, to build a cotton-seed oil mill at Tarboro, N. C. Mr. H. Stanton is president and Mr. N. B. Dawson is secretary of the company.

E. M. Van Tassel & Co. have nearly completed their new grain elevator on the bank of the North River, New York City. On the day of the great naval parade they invited their friends to occupy seats which had been erected

on the roof of the elevator. A feast was served and everybody had a good time.

Lindblom & Co., have been licensed to do a general grain commission business at Chicago. Capital stock \$50,000. Incorporators, Robert Lindblom, Finley D. Brown and Will Graham.

The Northern Pacific Elevator Co., at Tacoma, B. C., have started the construction of a new elevator having a capacity of 1,000,000 bushels. This is in addition to the one already in course of construction.

A company has been organized at Wilmington, N. C., by M. Frank of Columbus, Miss., and others, to build a 200-ton cotton-seed oil mill. The contract for the building has been let and the work will soon commence.

The grain commission firm of Brown, Gill & Co., of New York City, has been dissolved by limitation. Mr. W. F. Brown will continue in the commission business, as will also Mr. S. L. Gill, but each on his own account.

McMorran & Co., grain dealers at Port Huron, Mich., have complained to the Interstate Commerce Commission that the Grand Trunk Railway has discriminated against them in favor of Chicago on grain shipments to Buffalo.

Robert Losey and Frank Bradley, proprietors of bucket shops in Cincinnati, have been arrested under the provisions of the Ohio bucket shop law, and criminal prosecution against them will be pushed. The law will in this way be tested.

G. W. Crane, dealer in elevator machinery and supplies at Minneapolis, Minn., is filling an order which he received from one firm in the extreme Northwest, for fifty tons of 3/8-inch tie rods for grain elevators, also ten tons of cast washers.

The Oklahoma Lumber and Grain Company has been incorporated with a capital stock of \$50,000. C. F. W. Huttig, Muscatine, Iowa, is president; Wm. Huttig, Jr., Kansas City, Mo., vice-president, and E. C. Robinson, Kansas City, treasurer.

The two elevators at St. Charles, Minn., formerly operated by C. W. Seefeld, who failed some time ago, were sold May 4 on a chattel mortgage foreclosure to Mr. L. C. Porter for \$1,000. The mortgage was given by Seefeld to J. C. Woodward, a banker, in 1884, to secure a claim of \$3,000. Mr. Woodward negotiated the mortgage to the First National Bank of this city. Mr. Porter sold one of the elevators to Zeches Bros. and one to H. J. O'Neil.

The inventory and schedule of the assets and liabilities in the matter of the assignment of Charles W. Seefeld, the St. Charles, Minn., grain merchant, were filed April 28 by the assignee, George M. Brush. The total liabilities amount to \$125,421.09. The assets are \$59,825; liabilities over assets \$65,596.09. The principal creditors are: G. W. Van Dusen & Co., Rochester, Minn., \$11,000; Bank of St. Charles, St. Charles, Minn., \$19,000; Rosenbaum Bros., Chicago, Ill., \$58,000; E. P. Bacon & Co., Milwaukee, \$7,192.32; Foss, Strong & Co., Chicago, \$5,504.65. The list of creditors numbers sixty whose claims are in smaller amounts, ranging from \$7.70 to \$35. The assets are encumbered with mortgages and bills of sale to the amount of \$69,000.

The Interstate Grain Co., of Minneapolis, Minn., has perfected plans for the erection of a 300,000-bushel elevator at that point. The new elevator will be built beside the tracks of the Kansas City road. It will be 60x108 feet, and about 100 feet high. It will be fitted with all the latest and best machinery, have a passenger elevator, car movers, electric lights, and all the best apparatus for fire protection. A new style of boiler will be placed in the elevator, and petroleum will be used as fuel. The cost is estimated at \$70,000. An annex with a capacity of 500,000 bushels will probably be built next fall. The Interstate Company is one of the leading elevator companies of the Northwest, and at present it controls about thirty houses of 20,000 to 30,000 bushels' capacity each, located mostly on the lines of the Manitoba road. It is planned to double this capacity before fall. A. N. Austin is president of the company, and C. S. Hulbert is manager. The company will surely have a first class elevator, for they have let the contract to one of the best elevator building firms in the country, Simpson & Robinson, Minneapolis, Minn.

English, Morse & Co., of Kansas City, Mo., write us that among their recent sales are a 40-horse power Atlas Engine and Boiler for U. G. Osborn, Bethany, Mo.; a 50-horse power Atlas Engine for Brock & Wood, Milan, Mo.; a 40-horse power Atlas Automatic Engine for Charles Mansard, Albuquerque, N. M.; a 35-horse power Atlas Automatic Engine with boiler and complete outfit for Houston Roller Milling Co., Houston, Mo.; a 70-horse power Atlas Automatic Engine with boiler and complete outfit for the Louisville Roller Milling Co., Louisville, Kan. They have also furnished a number of engines and boiler outfits for manufacturing establishments in general, ranging in size from 40 to 100 horse power. They are constantly adding to their stock, and are now in the best possible position to fill orders from their friends in the elevator and milling business for both rubber and leather belting, Dodge Wood Split Pulleys, packing of all kinds, and for hose and pumps of all kinds for boiler feeding or fire protection. They have recently added to their agencies the celebrated Jenkins Bros'. Genuine Valves, and can promptly fill orders for anything in that line.

Fires, Casualties, Etc.

The grain elevator at Dixon, Ill., was recently destroyed by fire.

Morse Bros. flax mill at Orange City, Iowa, was burned recently.

The Dakota Flax and Tow Co., of Scotland, Dak., were burned out recently.

J. W. McFarland's distillery in Polk county, N. C., was burned recently.

George Nixon's grain warehouse at Monroe, Ohio, was burned recently, together with 10,000 bushels of corn.

Isaac Leisy's brewery at Cleveland, Ohio, was partially destroyed by fire recently. Loss \$16,000; fully insured.

The New Ulm brewery, near St. Joseph, Mo., was burned May 5. No insurance. It belonged to Mrs. John Burnside.

Trudeau & Frere, flour and grain dealers at Stanbridge Station, Que., were burned out recently. Loss \$1,000; no insurance.

W. D. Matthews & Co.'s large malt house at Leroy, N. Y., was burned May 3, together with contents. Loss \$200,000; covered by insurance.

Mr. L. D. Birely, Sr., who for a number of years was engaged in the grain business at Hamilton, Ont., died at his home in that city recently, aged 88 years.

Mr. George Watson, who for a number of years was connected with the Chicago Board of Trade, died at his home in Evanston, Ill., May 6, aged 66 years.

A fire in the brewery of the F. & M. Schaefer Brewing Company at New York City, on May 11, caused a damage of \$50,000 to grain, machinery and building.

The elevator at Walshville Ill., operated by Tolle, Theiss & Co., together with several cars loaded with grain, were burned April 17. Loss on elevator \$3,000; partially insured.

The steam grain elevator and the flour mill at Beaver Creek, Minn., belonging to S. F. Gibson, were destroyed by fire on the morning of April 10. Loss \$25,000; insurance \$17,000.

The elevator and flour mill of Wm. Listman & Son at LaCrosse, Wis., was burned on the evening of May 1. Loss \$100,000; insurance \$80,000. The elevator contained very little wheat.

Mr. F. W. Olmstead's elevator near Omaha, Neb., was burned on the night of May 4. No cause for the fire can be ascertained, and its origin is a complete mystery. Loss \$3,500; insurance \$2,000.

The grain elevator of T. J. Lewis at Ambia, Ind., was destroyed by fire on April 24, together with several thousand bushels of grain. Loss \$10,000; insurance \$5,000. The fire is thought to have been of incendiary origin.

The grain elevator and flour mill of J. S. Dennis and James McCoy at Washington C. H., Ohio, was burned April 7. The elevator had just been erected and new machinery put in. Loss on elevator \$6,500; insurance \$1,000.

The wife of Charles A. Conklin, grain buyer at Clark, S. Dak., died at her home in that city April 27. Deceased leaves a husband and five small children. During the preceding ten days Mr. Conklin also lost his mother and a sister.

The large brewery of C. R. Williams at Bismarck, Dak., was completely destroyed by fire on the night of April 21. The brewery was one of the largest in the Northwest and the loss was heavy. The fire is supposed to have been of incendiary origin.

On the morning of May 5 the old St. Joseph Elevator at St. Joseph, Mo., was burned to the ground. The elevator had a capacity of 150,000 bushels and belonged to the R. T. Davis Mill Company of that city. Loss \$20,000; insurance \$10,000.

William C. Francis, of the firm of Bickford & Francis, manufacturers of leather belting at Buffalo, N. Y., died April 27, after a brief illness, aged 42 years. During a recent Southern trip it is supposed he contracted malarial fever which terminated in a fatal attack of typhoid fever.

The grain warehouse of B. & E. Baxter at Cayuga, Ont., caught on fire from a burning building nearby, and was completely destroyed, on the morning of April 17. The elevator contained about 8,100 bushels of grain, all of which was consumed. Loss \$20,000; partially covered by insurance.

We regret to announce the death of William A. Cole, ex-President of the New York Produce Exchange, aged 54 years. Mr. Cole began life as a clerk in a country store, but soon abandoned this for a position as bookkeeper in a New York City produce house. He afterwards became a member, and finally President of W. J. Wilcox & Co. On account of failing health he retired from the firm a few months ago. His death was caused

by rheumatism of the heart. The Exchange passed resolutions of respect regarding his death, and the President appointed a committee of fifty members to attend the funeral.

Poole Bros' elevator at Forreston, Ill., was completely destroyed by fire on the morning of April 3, and before the fire was under control three business blocks and the depot were also burned. The fire is supposed to have been caused by spontaneous combustion in the elevator. Poole Bros' loss on elevator and coal yard was \$20,000.

During the centennial celebration at Depere, Wis., on the afternoon of April 30, a fire broke out in an adjoining building which burned Winegard & Persons Co.'s store building and their stock, elevator and grain. Their loss was \$40,000; insurance \$25,000. J. P. Dousman had \$2,000 worth of wheat in the elevator, which was also destroyed. His loss was partially covered by insurance.

Mr. A. D. Sterling, Chief Inspector of Grain of the New York Produce Exchange, died recently after a short illness, at the age of 47 years. He was an excellent judge of grain, and the first and only Chief Inspector of the Exchange. His death is thought to have been caused by dropsy. The members of the Exchange adopted fitting resolutions of respect, and a large committee was appointed to attend the funeral.

Isaac N. Graeff, a grain buyer at Leland, Ill., died at his residence in that city May 4, after taking a large dose of laudanum. The coroner's jury decided that death was caused by an overdose of laudanum, taken as medicine. The deceased has been engaged in the grain business at Leland for about ten years. Before settling in Leland he lived in this city and was a prominent member of the Board of Trade. He was fifty years of age and leaves three daughters.

On the night of May 2 the Farmers' Elevator and Archer & Howe's warehouse at Northville, S. Dak., were destroyed by fire. The elevator contained several thousand bushels of grain, but there was not much grain in the warehouse. Loss on elevator and contents, \$5,000; partially insured. Loss on warehouse about \$1,000. Mr. P. J. Henderson of Northville has been arrested on the charge of starting the fire. There is only circumstantial evidence against him.

Andrew Luke, one of the original members of the New York Produce Exchange, died recently. Mr. Luke was the oldest measurer of grain, having been State Measurer in 1848-'50, when measuring of grain was controlled by the state. He was the first to successfully introduce the handling of grain by floating elevators in New York Harbor. For a number of years he was President of the Old Board of Grain Measurers, and held other prominent positions connected with the grain trade.

Arthur G. Webber, who is engaged in the grain business at Christiana, Pa., met with quite a serious accident May 4, which may result fatally. He was in the second story of his warehouse shifting some barrels when he lost his balance and fell astride of the front board of a grain bin six feet below. A doctor was immediately called, and as he rapidly grew worse several physicians were called in and a surgical operation was performed. As this only afforded temporary relief he was taken to the University Hospital at Philadelphia, where he will receive the necessary treatment and it is to be hoped will soon recover.

PERSONAL

Wm. Lawler, the elevator man, has moved to Morton, Ill.

C. D. Lockard, grain dealer of Marquette, Neb., will probably move to Oberlin, Kan.

The Illinois Senate has confirmed the appointment of Benjamin H. King as Chief Grain Inspector at Joliet, Ill.

Louis Muller, President of the Baltimore Corn and Flour Exchange, has gone to Europe on a two months' trip.

Major J. W. Burst, who for the last four years has given such general satisfaction as Warehouse Registrar in this city, has been re-appointed to that position by the Board of Railroad and Warehouse Commissioners.

Mr. Henry S. Woodruff, son of Franklin Woodruff, the well-known warehouser of New York City, was married recently to Miss C. T. Whitesley in Brooklyn. After their wedding trip Mr. and Mrs. Woodruff will take up their residence in Colorado Springs, Col.

Mr. Geo. H. K. White has been appointed Chief Grain Inspector for the New York Produce Exchange by the Grain Committee of the Exchange. Mr. White has been connected with the grain trade all his life, and for seven years was Deputy Inspector under the late Mr. Sterling, so is well fitted to fill the place.

W. G. Griffiths has accepted for the grain firm of J. S. Lapham & Co. of Detroit, Mich., has severed his connection with that firm, and will go to Spain as private secretary for Minister Pamer. Although of English birth Mr. Griffiths was raised in Spain, and speaks the language of that country very fluently.

THE AMERICAN ELEVATOR AND GRAIN TRADE.

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ADVERTISING.

This paper has a large circulation among the elevator men and grain dealers of the country, and is the best medium in the United States for reaching this trade. Advertising rates made known upon application.

CORRESPONDENCE.

We solicit correspondence upon all topics of interest connected with the handling of grain or cognate subjects.

CHICAGO, ILL., MAY 15, 1889.

CHEAP PRODUCTION OF WHEAT.

The production of grain, and especially of wheat, in some parts of this country is becoming more and more mechanical, and the cost of production on all the large farms of the Pacific coast and the Northwest has been greatly reduced by the use of steam power and the introduction of new machinery. It is claimed that mechanical devices for the production of wheat have been carried to a greater success in California than any place else.

A recent number of *Breadstreet's* contained a communication from Mr. Edward Atkinson, in which he tells of the almost incredible reduction in the cost of wheat growing made by George S. Berry of Los Angeles, Cal., who has recently invented new machinery for use on his farm near that place. Mr. Berry has invented a combined feeder and thrasher, which he expects will reduce the cost of production 15 per cent. Last year he cut, threshed, sacked and loaded on the cars 3,338 acres of wheat for \$1,750, aside from the cost of the sacks. Crops were poor last year on account of no spring rain, and Mr. Berry only harvested 700 bags of 140 pounds each, or about 16,333 bushels, being an average yield of about 4.9 bushels per acre.

After harvest Mr. Berry set his steam engine to plowing this same land, and it cost him \$1,254 to plow it, being .375 an acre. It cost him .524 to cut, thrash, sack and load the grain from the same land, so the cost of producing the wheat was .90 an acre. Allowing 10 cents for each sack, raises the cost to \$1 an acre, or about .20 a bushel. With wheat at 20 cents a bushel we can surely compete with Russia, India, Roumania, Australia and other countries, which Englishmen are continually predicting will shut us out of the international grain markets.

Mr. Berry estimates that there are 39,000 square miles of territory in California that can be successfully handled with his machines. If California were to give up just two-thirds of this vast area to the cultivation of wheat there would be an immense increase in our acreage. Last year, according to the estimates of the Department of Agriculture, our total acreage was 37,336,138 acres, or 58,338 square miles. California's average last year was 2,351,300 acres, or 3,674 square miles, and she produced 28,451,000 bushels. Now, if California will take to raising wheat by Mr. Berry's cheap method, and will use all of the re-

maining 35,327 square miles which Mr. Berry estimates can be cultivated with his machines, that state alone can more than supply Great Britain's weekly demand of 4,000,000 bushels, and at so low a price that all foreign competitors will be shut out, until they shall have adopted Mr. Berry's cheap method.

COMPLAINT OF DISCRIMINATION.

Cincinnati grain men say the Interstate Commerce Law is a hardship, and claim that the outrageous discriminations against that city in the matter of freight rates is destroying their business, it having been reduced over 90 per cent. during the last year. This is truly a serious state of affairs, but of course the law is not alone responsible for the falling off. It is doubtful if any city has handled the amount of grain it did last year, for the wheat crop was short and the farmers have held their corn for higher prices. But the cause of reduction in business which the Cincinnati grain men are complaining of is that the railroads will not rebill grain that is received in that city from the West and sent East, while it is allowed at other points.

The through rate on grain from Danville, Ill., to New York via Chicago or Cincinnati is 30 cents per 100 pounds. From Danville to Cincinnati it is 12 1-2 cents, and from Cincinnati to New York it is 21 1-2 cents, making a total of 34 cents per 100 pounds, or a difference of 4 cents. Now it is claimed that rebilling is allowed at Chicago, Peoria and Indianapolis from points in the far West. This of course makes a difference in the cost of grain at these points, and by having this advantage the grain merchants are enabled to overbid Cincinnati dealers in the West, and sell cheaper in the East than they can afford to. Railroads have no more right to rebill grain at points in Illinois and Indiana than they have in Ohio, and if the Cincinnati grain men will take the trouble to complain to the Interstate Commerce Commission, it will probably be stopped.

ENGLAND'S DEPENDENCE UPON THE UNITED STATES.

For a number of years England has depended upon the United States for more than half of her imported breadstuffs. But during all these years she has been desperately, yet vainly, seeking to make her colonies great grain-producing countries, in hope of becoming independent of the vast grain fields of the United States. For a time it did look as though India and Australia would send large quantities of wheat to England, and in a measure shut out American wheat. However, we find that the large quantities of grain that England had expected to receive annually from these two countries is not arriving.

There are several reasons for this: In three of the Australian colonies the crop was a failure this year, and the other colonies have not surplus enough to make up the deficiency in the home supply. The amount required to meet the home demand for food is increasing in Australia, as well as in India, much faster than the amount produced. A recent Russian report on the agricultural situation in grain exporting countries is authority for the statement that as soon as the consumption of wheat bread becomes more common in India that country will have to import wheat instead of export it as at present.

India's average crop of wheat from 1883 to 1886 was 260,000,000 bushels, just one bushel a year for every inhabitant. About 40,000,000 bushels were exported annually, leaving over five-sixths of her crop to be consumed at home. The condition of the Indian ryot, as well as that of the soil he cultivates, is poor, and he cannot long compete with Americans in the English markets. In fact, there has been a steady falling off in the percentage of his crop sent to England. Both India and Australia have found markets for their grain that are much nearer than England. Thus the two countries which England joyously thought would supplant America in her grain markets will eventually be in her markets to buy.

However, Englishmen are not to be discouraged

by these gigantic failures, and they are constantly finding new wheat fields to take the place of our own. Not long ago one London paper found considerable consolation in the fact that there were vast tracts of land along the Nile that were being irrigated by artificial means for the purpose of raising wheat, and recently *The Mill* contained an article on "Cyprus as a Source of Grain Supply," in which the attention of grain men is called to that little island in the Mediterranean. In 1887 this island produced 857,544 bushels of wheat, but only exported 5,108 bushels. However, 1887 was not an average year. In 1884 over 1,850,000 bushels of wheat were produced, and about 240,000 bushels were exported.

Last year we exported breadstuffs valued at \$116,666,000, and of this great amount England received 63.51 per cent. In 1886 over 64 per cent. of England's importations of breadstuffs was supplied by the United States, and the following year we supplied 69 per cent. of her importations of breadstuffs. When the African jungles are turned into wheat fields, and Russia, Australia, Roumania and India produce a good crop every year, and have a large available surplus, England may be able to refuse American wheat, but we doubt it.

THE ST. LOUIS ELEVATOR COMBINE.

The elevators at St. Louis have gone into a "combine" for the purpose of reducing operating expenses and putting an end to destructive competition. The only "regular" elevator that has stood out is in a position to be coerced, as it cannot deliver grain to the river, and makes its deliveries to the river through another elevator, which has gone into the combine. The pool commences operations on June 1, with A. M. Samuel as manager. Only four houses, two on each side of the river, will be kept open; but that is quite sufficient to handle all the business.

There are eleven regular elevators in St. Louis, six on the St. Louis side and five on the other side of the river. The capital invested is \$4,000,000. It is calculated that \$75,000 a year can be saved in switching charges by the combine, as grain will be consigned to the most convenient elevator. Added to this, \$100,000 will be saved in operating expenses, and a large sum in commissions, sufficient, all told, to pay good interest on the money invested. Capt. D. P. Slattery, one of the best known grain men in the West, was the prime mover in the consolidation.

DULUTH'S CORN INSPECTION.

The Minnesota Board of Railroad and Warehouse Commissioners recently made a decision, which will probably put a stop to the shipments of corn from Iowa and Nebraska to Duluth. At least the grain merchants of Duluth are not likely to purchase any more corn from these two states until their city gains some reputation as a corn center, and the corn certificates issued by the Duluth grain inspector have more weight in the Eastern markets than at present.

It will be remembered that some time ago during a cut in freight rates a large quantity of corn was sent from Nebraska and Eastern Iowa to the head of Lake Superior. It was looked upon as a move to make Duluth a competitor with Chicago and St. Louis for the corn trade of Nebraska, Southern Dakota and Minnesota and Western Iowa, and there is little doubt but had the experiment proved successful large quantities of corn would have been shipped to Duluth from these districts. Sufficient influence was brought to bear so that the rates were raised so much that it was more profitable for the grain dealers of those districts to ship their corn to Chicago and St. Louis. Now another difficulty has been placed in the way of corn shipments to Duluth.

Some time ago George Ripley, superintendent of the Lake Superior Elevator Co. at Duluth, had an opportunity to sell 1,000,000 bushels of Iowa corn which were in the company's elevator at Duluth. By writing to the Eastern markets Mr. Ripley found that a Minnesota corn certificate is

practically valueless, and he therefore appealed to the Railroad and Warehouse Commission asking for permission to ship out 1,000,000 bushels of corn from the Lake Superior Elevator without inspection. The appeal was made on the ground that the corn had been properly inspected in, and that a reinspection and a giving of a Duluth corn certificate would be of no value, while it would cost the company about \$1,000.

The Board considered the question and decided that the law was inflexible, and they had no discretion in the matter but to compel inspection at the company's expense before shipment. This will be a severe blow to the Duluth elevator companies, for they had expected to receive considerable corn during the season.

But the time is not far distant when Duluth will receive large quantities of corn, and her corn certificates will have some weight in the Eastern markets. Both Dakota and Minnesota increased their corn acreage about 100,000 acres last year. Dakota produced 18,816,000 bushels last year, against 4,915,000 bushels in 1883. Minnesota produced 20,622,000 bushels, against 15,125,000 bushels in 1883. These two states are becoming corn-producing states. As soon as they have any considerable amount for export it will go by way of Duluth, and corn certificates of that city will not be worthless.

"POOR OLD CHICAGO."

Chicago has reached the safe position where she does not have to advertise herself. The fact that other Western cities have grown has actually persuaded some misguided individuals that their growth has been at the expense of Chicago. This city has taken Chicago's wheat trade, that city her packing industry, another city her corn trade, and so on, until some have ventured to pity Chicago for her decadence. Meanwhile she has kept growing until now, with her immediate suburbs, she has over a million people.

But is Chicago losing her trade? Here are the figures for 1888, which tell the story in a few different lines of traffic: The receipts of flour and grain in 1888 aggregated 182,588,188 bushels, which is more than were ever received in any other year, and 20,000,000 bushels in excess of like receipts in 1887, while the shipments amounted to 159,659,986 bushels, which exceeded those of 1887 by about 5,000,000 bushels. The total number of hogs received during the year was 4,938,413; of cattle, 2,611,543; of sheep, 1,515,014; of horses, 55,333. The total number of hogs shipped was 1,863,652; of cattle, 968,385; of sheep, 601,241; of horses, 52,866. The valuation of stock received in 1888 was \$182,202,789.

"Poor old Chicago," forsooth!

MUST ABANDON TRACK SCALES.

Two years ago the Illinois Legislature passed a bill requiring that grain transferred and weighed in bulk shall be accurately weighed in covered hopper scales, which shall be of sufficient capacity to weigh a carload at a time. A number of railroads running into this city have not complied with the law, but have used uncovered track scales which are subject to the influence of wind and weather. Some time ago the Chicago Board of Trade complained of this violation of the law, and at a recent meeting of the Illinois Board of Railroad and Warehouse Commissioners in this city, the Commission decided that it would be necessary for the roads to discontinue the use of track scales for weighing grain in bulk at as early a day as practicable. Several attempts have been made to compel all the roads centering at this point to use hopper scales in the weighing of grain in bulk, but without success, and it is very likely that the roads will not consider it "practicable" to make the change until they choose to do so.

In regard to the "Jumbo machine" which has been used by a number of the roads the Board said: "It appears from the evidence before us, and from our examination of the machine, that it is much nearer a compliance with the statute than the track scale. Those at present used have not the capacity to weigh an entire carload of the

lighter grains at a single draught. This requirement of the law is as positive as any of the others, and the Commission have no power to waive it. Then, too, the evidence before us is quite strong to the point that the 'Jumbo scale' is much more liable to get out of order and to weigh incorrectly than a stationary scale." However, the Commission did not decide whether or not a "Jumbo machine" of sufficient capacity to weigh a carload at one draught could be regarded as complying with the law, and the question was left by request for further consideration. It seems that those roads which receive only a small amount of grain think it would be an injustice if they were compelled to go to the expense of putting in hopper scales.

The Commissioners said they regarded the system of weighing and transferring by means of a transfer warehouse much better than either of the other systems, and they recommended the adoption of that system by all roads where it was practicable.

It seems that the Commission has been entirely too easy with the railroads as regards the enforcement of this law and it is time there was a change. If the roads do not find it practicable to make the change soon the Chicago Board of Trade should take steps to compel them to make the change.

EXPORTS OF BREADSTUFFS.

The report of the Bureau of Statistics for the month of April, issued May 9, shows that the value of our breadstuffs exported during the month was \$9,537,876, against \$8,032,559 for the same month of 1888, and for the four months ending April 30 the value of our breadstuffs exported was \$38,301,347, against \$35,818,399 for the first four months of 1888. For the ten months ending April 30 we exported breadstuffs valued at \$101,282,823, against \$110,028,536 for the ten months ending April 30, 1888. Any person of sound mind who peruses these figures will be compelled to differ from the pessimistic views of some writers regarding the decline of our grain trade. During the last ten months there has been an increase in the amount of all our breadstuffs exported except wheat and wheat flour, and every one knows the cause of the decrease in the amount of those two articles exported.

During the month we exported 2,902,089 bushels of wheat, valued at \$2,534,032, against 3,182,360 bushels, valued at \$2,638,291, for the same month of 1888, and for the ten months ending April 30 we exported 39,449,015 bushels, valued at \$35,847,222, against 60,289,237 bushels, valued at \$51,542,547, for the ten months ending April 30, 1888.

There has been a great increase in the shipments of corn, the exports for the month being 8,379,462 bushels, valued at \$3,750,291, against 1,470,340 bushels, valued at \$887,272, for the same month of 1888. For the ten months ending April 30 we exported 55,290,896 bushels, valued at \$26,739,608, against 20,034,706 bushels, valued at \$10,768,500, for the ten months ending April 30, 1888. For the ten months this shows an increase of over 35,000,000 bushels.

The amount of oats exported during the month was 30,287 bushels, against 27,393 bushels for April, 1888, and for the ten months ending April 30 we exported 521,150 bushels, valued at \$208,758, against 256,848 bushels, valued at \$108,348, for the same period of 1887-'88. The amount of rye exported during the month was nearly four times as much as was exported during April, 1888, and for the ten months ending April 30 we exported 149,161 bushels, valued at \$81,333, against 44,350 bushels, valued at \$29,194, for the ten months ending April 30, 1888. The amount of barley exported during the month was less than for the corresponding month of last year, but for the ten months ending April 30 we exported 1,358,664 bushels, valued at \$820,854, against 469,757 bushels, valued at \$270,979, for the ten months ending April 30, 1888. There was also a marked increase in the amount of cornmeal exported for the month, and the ten months ending April 30, as compared with the corresponding

periods of 1888, and an increase of over 100 per cent. in the amount of oatmeal exported. There was a large amount of breadstuffs exported from San Francisco, that port standing next to New York as regards the value of breadstuffs exported. Baltimore comes third, with Boston and New Orleans following close behind.

MINNEAPOLIS WHEAT INSPECTION.

Minneapolis grain men are wild, and it seems that they have very good reasons for being so. They claim that Chief Grain Inspector Clauson of Minneapolis, has been tightening up the grades of late so that they are losing from seven to ten cents per bushel on the grain they send out. During the last two or three weeks of April there were numerous complaints of tightening up on the inspection, and finally a formal complaint was made. A meeting of the members of the Chamber of Commerce who are interested was called recently to consider the matter. It is claimed that wheat that inspected No. 1 Northern last fall will not inspect out of store, and that of late the inspection on track of incoming wheat had been tightened up considerably. Elevator firms find that a large portion of the wheat that was graded No. 1 hard last fall will not pass for better than No. 1 Northern now, and they cannot fill their May contracts so they are placed in a rather sad predicament. At the meeting, which was attended by representatives of nearly every grain firm, elevator company and milling concern in Minneapolis, many fiery speeches were made. The general opinion of those present was not that the grades were too high at present, but that they were too low last fall.

The Chief Inspector was present and said that the grades were more lenient than last fall, and that he had samples of the work done each day, by which he could prove his assertion. All he asked was an investigation. One dealer replied that samples were not necessary; that he had a special bin of wheat in his elevator that had been graded in No. 1 hard, but a portion of it was graded out No. 1 Northern. He objected and appealed without avail. When he showed the records which proved that it had been graded in No. 1 hard the rest was graded out as such.

It must be that the grades have been tightened, or the complaint would not be so general. Grades cannot be changed during the crop year without loss to grain dealers, and should always be maintained the same throughout the year. Of course last year's crop was an unusually hard crop to grade, and mistakes will occur every year, but when mistakes are the rule instead of the exception the inspection becomes costly and futile. The grain dealers of Minneapolis are thoroughly awakened to the injustice of the tightening of the grades, and will not let the matter drop until the inspectors return to the grades of last fall, even if they have to carry the matter into the courts, as some of them have threatened to do.

A committee of five was appointed to wait upon the Minnesota Board of Railroad and Warehouse Commissioners for the purpose of securing a board of appeal. It will be remembered that a bill was introduced in the Minnesota Legislature during the last session providing for a board of appeal at each of the three grain centers of that state, but unluckily it did not become a law.

Another committee of five was appointed to investigate the grading now and compare it with last fall, and also to serve as a committee of appeal during the month of May. The commission men have instructed their buyers in the country to tighten up grades to correspond with Minneapolis grades, so it is likely the farmers will be the next to complain.

Our deputy assistant editor, who has been trying to keep track of the Minneapolis wheat stealing case, went hopelessly insane in trying to reconcile the press dispatches and present our readers with an understandable version of the late developments. There are some complications too complicated for explanation.

Editorial Mention.

THE Chicago Board of Trade has refused to add No. 2 Turkish Red Winter, No. 2 White Colorado and No. 2 Colorado to the grades deliverable on contracts.

It is reported that the corn acreage of South Dakota for this season is immense. It was put in early and is in good condition.

It is claimed that the increase in the number of ocean ships during the last year and a half will greatly reduce the ocean freight rates this summer, and thus increase our exports of grain, and especially of corn.

REPORTS received by Minneapolis elevator men from their agents throughout Minnesota and Dakota are very encouraging. All districts have received the much needed rain, and the crop prospects are excellent.

WE are indebted to Mr. Geo. F. Stone, secretary of the Chicago Board of Trade, for a copy of the thirty-first annual report of that body. It is replete with information, and is a credit to Mr. Stone's capacity as an officer of the Board.

THE Missouri law prohibiting dealing in futures is plainly unconstitutional. Legislative enactment cannot make a contract to do a lawful thing unlawful. If it is lawful to sell grain in May, it is lawful to contract in April to sell grain in May.

THE bill prohibiting dealing in options, which was introduced in the Lower House of the Illinois Legislature some time ago, has been rejected by the Judiciary Committee, and the bill legalizing dealing in options has been favorably reported by the same committee.

ONTARIO'S Department of Agriculture has issued a report which shows that the condition of fall wheat is much better than a year ago, and wherever winter rye is grown extensively there are prospects of an extraordinary crop. The season is reported about two weeks in advance of last year.

THE business of Geo. L. Jarrett, Des Moines, Iowa, well known in grain and milling circles, has been merged in the Des Moines Manufacturing and Supply Co., of which Mr. Jarrett is manager. Their card in this issue explains sufficiently the scope of their business. They will be pleased to hear from all who have requirements in their line.

ATTENTION is directed to the new advertisement in this issue of J. L. Owens & Co. of Minneapolis. This firm manufactures elevator machinery, horse powers, separators, etc., and are enjoying a good trade in their specialties. They will be pleased to correspond with elevator men who may need anything in the way of machinery or supplies.

THE Supreme Court of Nebraska has decided that "option trading on the Chicago Board of Trade" is illegal, and that notes given in settlement of losses incurred in such operations are not collectable by legal process. The Supreme Court of Nebraska is behind the times. "Option trading" is against the rules of the Chicago Board of Trade and the laws of the state of Illinois, and has been illegal and notes given in such transactions not collectable for the past five or six years at least. At a special meeting of the directors of the Board held April 18, the Attorney-General of the state was asked to take such action as would result in the punishment of the violators of the

law, and he was pledged support in putting a stop to a practice which exists, it is true, but which is contrary to the law, and needed no decision by a court to make it so.

AT a meeting of the Flour and Feed Association of this city, held April 20, it was decided to pay any one informing on elevator men and wholesale dealers who sell direct to consumers one-half the fines imposed for this breach of the rules. Now the elevator men should make a rule forbidding the retail dealers to buy of any one save themselves, and offer the entire fine to informers.

ANOTHER Richmond is in the field in the shape of the "Champion" Oat Clipper, made by Weller Brothers, 94 Wendell street, Chicago. The utility of oat clippers is now well understood, and the "Champion" has some features that recommend it to careful consideration. It has made a good record where it is in use. Notice the claims made for it in the new advertisement of Messrs. Weller Bros. on another page in this issue.

THE St. Louis Merchants' Exchange has again commenced war on the bucket shops. The board of directors have adopted resolutions denouncing them and cutting them off from St. Louis quotations. The Chicago Board of Trade will be asked to refuse quotations to the bucket shops also, which of course the Chicago Board will do—if it can. If this plan is carried out the St. Louis bucket shops will have to suspend.

THE Missouri State Board of Agriculture issued a report May 4, which shows the average condition of winter wheat in that state to be 98. The acreage of oats is about the same as last year, while the acreage of barley is 8 per cent. less. The outlook for crops in that state has not been better for a number of years. From all sections the prospects are reported as flattering and the season is from ten days to two weeks in advance of last year.

THE Chicago Board of Trade has met the issue presented to it by the Supreme Court of Illinois. The court having decided that the Board could not discriminate in its customers who might desire the quotations for lawful purposes (thus throwing the burden of proof on the Board), the Board now decides that after May 30 all tickers will be withdrawn from the offices of non-members. This move will certainly increase the membership of the Board.

ANOTHER bill has been introduced in the Minnesota Legislature to fix the freight rate on grain. The rate for carrying 100 pounds of grain a distance not exceeding ten miles is fixed at 2½ cents per 100 pounds; ten to twenty-five miles, 3 cents; twenty-five to fifty miles, 5 cents, and for every twenty-five miles additional up to five hundred miles, 1 cent additional. The rates on flaxseed, timothy and clover are placed at 2 cents per 100 pounds above grain rates. For the purposes of the law all connecting roads in the state are to be considered as one line. If it becomes a law it will be very severe upon violators. The fine for the first offense is fixed at \$5,000; for the second, \$10,000.

A BILL has been introduced in the Minnesota Legislature to regulate the shipment and weighing of grain by common carriers. It provides that all railroads shall be compelled to supply suitable tracks and weighing apparatus for grain at all stations from which 100,000 bushels or more of grain are shipped annually. Most every station throughout the Northwest that ships half that amount of grain annually has some kind of an elevator or grain warehouse, and few, if any, are without weighing apparatus. Some towns from which that amount and less is annually shipped have city scales, where the farmer is compelled to weigh his grain, and it would be useless in such places, as well as where there is an elevator. We presume this law was introduced in the interest of that class of farmers who are op-

posed to patronizing the elevator men because they object to buying a load of grain which contains eggs, butter, dogs and other stuff, which is never put into the elevator.

WEBSTER & COMSTOCK MFG. Co. of this city have just issued a storage calendar, arranged and compiled by Mr. Powell, manager of the Chicago Board of Trade Clearing House. It is based on Chicago rates of storage, and is copyrighted. It will be found a great convenience to parties using storage. Webster & Comstock Mfg. Co. will send it free to those who use storage.

ACCORDING to *Bradstreet's* there was a decrease of 5,273,708 bushels in the amount of wheat out of farmers' hands in the United States and Canada east of the Rocky Mountains during the month of April. The stocks of wheat east of the Rockies May 1 was 34,363,005 bushels, against 48,436,782 bushels on May 1, 1888. The stocks of corn on May 1, 1889, was 15,665,112 bushels; of oats, 9,137,018 bushels; of barley, 1,131,639 bushels; and of rye, 1,704,298 bushels, against 11,087,990 bushels, 6,403,081 bushels, 1,275,582 bushels, and 499,178 bushels, respectively, on May 1, 1888. The official report of the visible supply on May 1 was 26,042,209 bushels, against 32,473,243 bushels on May 1, 1888.

PRESIDENT CHARLES S. SMITH of the New York Chamber of Commerce, who was recently examined by the Senate Committee which is investigating the workings of the Interstate Commerce Law, said "that railroad building in India and about the Black Sea ports was being pushed rapidly, and he greatly feared that under present conditions it would not be long before America lost what little export trade it had. He even advocated the carrying of occasional shipments of grain by the railroads at less than cost of carrying when this might be necessary." If the railroads would carry goods for export for less than cost of transportation it would probably boom our export trade, but it is not at all probable that American grain producers will ever need such aid to successfully compete with India and Southern Europe.

THE Milwaukee corner in oats was a decided failure. It seems that the operators became scared at the great quantity of first-class oats that was being prepared for market by the owners of oat clippers, and closed up the deal ahead of time. The bulls did not corner the oats, but allowed the bears to win a little on the deal. It is reported that Peter McGeoch, Angus Smith, John Black and the officers of a prominent Milwaukee bank were losers, and that Dr. Bigelow, who was the originator of the corner and carried 4,000,000 bushels, lost the \$55,000 he made on wheat last fall. It is quite probable that the operators of this deal are fully aware of the good effect oat clippers have upon low grade oats, and they can surely tell any anxious inquirers what effect the use of oat clippers has upon the market.

A RECENT number of *Bradstreet's* contains an article on "India Wheat and the Price of Silver," in which the writer claims that American silver damages American exports. He says that when the London merchants first tried to import Indian wheat they were forced to give up the scheme because the cost of transportation was so much more than from America. At a later day the price of silver bullion became less, and they were enabled to send it to India at the price of gold. In that country a silver rupee has the same purchasing power that it did twenty years ago, and the exchange between India and England is 43 per cent. in favor of the latter at the current depreciated price of silver bullion, while exchange between America and England is almost at par. This difference in exchange overcomes the difference in the cost of transportation, and enables Indian wheat to compete with American. The writer claims that if the price of silver bullion can be appreciated, or silver bullion be prevented

from going to London, there will be considerable decrease in the exports of India, and a corresponding increase in American exports.

FAVORABLE reports as to the condition of grain in California continue to arrive. The coming harvest is the leading topic of the day in that state, and some enthusiastic farmers claim that if all goes well they will have a yield of forty bushels of wheat to the acre. In many counties the wheat acreage has been increased 50 per cent. One county, Colusa, reports that she will have a surplus of 8,000,000 bushels for sale. The prospects of a large crop of excellent barley are equally encouraging.

In our last issue we noted that Mr. P. B. Ellis had lost his elevator at Grundy Center, Iowa, by fire. With his characteristic push and enterprise Mr. Ellis rises above misfortune, and is already building a new elevator. His new house will be furnished with machinery from The Frost Mfg. Co.'s works at Galesburg, Ill. This is the sixth engine and boiler furnished by this firm to Grundy Center patrons, which is an excellent recommendation for their goods. They will soon have a fine new illustrated catalogue, which they will be pleased to mail to any one sending them their address.

The directors of the Chicago Board of Trade have taken a very decided stand against trading in grain privileges or puts and calls, which is practiced in open defiance of the laws of the state and the rules of the Board. At a special meeting of the directors, held April 18, they passed resolutions requesting the State's Attorney-General to investigate the matter, and promised to "afford every facility within its reach to assist him in such investigation." This action is similar to that taken by several large exchanges of the East. The general sentiment of the Board is that trading in options should be stopped or legalized, and as the chances for its being legalized are very small it will probably be stopped.

THE amendment to the Interstate Commerce Law which was passed at the last session of Congress, in regard to through lake and rail rates, is not having the effect upon through lake and rail grain traffic that was anticipated. In forbidding a reduction of rates without five days' notice the law has prevented the cutting of rates whenever there is a surplus of room, and the through lines are able to make more money. So far the lines have had little trouble in obtaining cargoes for their boats, and it is not likely that they will have any trouble in obtaining cargoes in the future, for their through bills of lading give them an advantage over the tramp boats, which in a measure overbalances the privilege of reducing rates without previous notice.

GOVERNOR FRANCIS has signed the bill which was recently passed by the Missouri Legislature to prohibit the buying and selling of agricultural products, stocks and bonds for future delivery. It is known as the Anti-Option Bill. The bill makes it unlawful for any corporation or person to keep in that state any office wherein is conducted the pretended buying or selling of stocks, bonds, petroleum, provisions, grain, or agricultural products whatever, either on margins or otherwise, without any intention of receiving and paying for the property or of delivering the property, or wherein is conducted buying or selling of such property on margins, when the party selling or offering to sell does not have the full amount of property on hand or under his control to deliver upon such sale, or when the party buying any such property, or offering to buy the same, does not intend actually to receive the same if purchased. The punishment is a fine of from \$300 to \$3,000. It is a direct blow to St. Louis and Kansas City, and the signing of it was quite a surprise to the friends of Gov. Francis in St. Louis. The Governor is engaged in the grain business in that city. When the bill was passed the merchants of St. Louis and Kansas City made

indignant protests, and in St. Louis it was suggested that the Chamber of Commerce be moved across the river. The Illinois Legislature has not yet passed the bill legalizing dealing in options, but if the St. Louis Chamber of Commerce moves into this state there is little probability that they will be interfered with if they wish to carry on such transactions.

HUNTLEY, CRANSON & HAMMOND of Silver Creek, N. Y., manufacturers of the Cranson Wheat Cleaning Machines and other specialties, have located a branch office in this city. In a circular letter they say: "The object of this branch is to serve Western customers more promptly, to save freight, as machines will be delivered from Chicago, and to give visiting millers a chance to inspect the machines, and obtain full information in regard to them." The firm is having excellent success with these machines, and their trade is rapidly increasing, which is a pretty fair indication that the Cranson machinery possesses substantial merit. B. F. Ryer of this city will have the management of this branch, and the proprietors are to be congratulated on securing his services.

THE Judiciary Committee of the Lower House of the Illinois Legislature, to which Mr. Pepon's bill providing for the extermination of bucket shops, and making it unlawful to run corners and deal on margins, was referred, has amended the bill so as to make it unlawful for any one to keep, or cause to be kept, within the state any place wherein is conducted or permitted the pretended buying or selling of stocks, bonds, or produce, either on margins or otherwise, without intending to receive and pay for, or to deliver, such property. Any one convicted of violating the law shall be fined from \$500 to \$1,000 for the first offense. It is not so severe as Mr. Pepon's long bill, and does not prohibit the running of corners, but it covers about all the ground that is necessary.

DOTS AND DASHES.

The area of oats in Kansas is reported at 1,901,463 acres, against 1,656,821 acres last year.

Nearly all the wheat in the Canadian Northwest has been delivered. There is about a million bushels in inland elevators and over a million stored at Fort William.

Mr. J. M. Carr, Secretary of the Dakota Wheat Buyers' Union, in a recent letter says: "Wheat is most all sown. There will be a large acreage. Have had plenty of rain."

American corn with an import duty of 7½ cents per bushel is said to be entering Canada at such a rate that holders of Canadian barley and peas find it hard to compete.

We have heard of men sowing wild oats, but women's mission is to sow tares. "It is never too late to mend." Which is why so many people postpone mending indefinitely.

C. K. Kershaw estimates that Washington Territory will raise 10,000,000 bushels of oats more this year than it did last. The crop last year was 3,314,000 bushels, against 3,369,000 bushels the preceding year.

The Manitoba Government's crop reports will not be ready for some weeks yet, and so no official returns can be obtained of the acreage sown, but from private advices received it is estimated that in Manitoba 636,000 acres of wheat and 357,000 acres of other grains will be seeded.

Hill, Fountain & Co of Memphis, Tenn., in their monthly crop report issued May 8, for the Memphis district, which embraces West Tennessee, North Mississippi, North Arkansas and North Alabama, report an increased acreage of corn of less than one per cent., but state that stands are generally good.

The principal points of increase in the visible supply during the week ending May 11 were: Boston, 110,889 corn; Milwaukee, 13,000 wheat; Montreal, 56,885 wheat and 21,599 corn; on canal, 186,600 wheat and 857,000 corn; on Mississippi, 40,000 wheat and 418,277 corn. The principal points of decrease: Baltimore, 35,000 wheat, 167,000 corn; Buffalo, 81,000 wheat, 134,000 corn; Chicago, 192,275 wheat, 814,724 corn; Duluth, 161,061 wheat, 47,089 corn; Minneapolis, 128,872 wheat; New York,

546,471 wheat, 203,524 corn; St. Louis and afloat, 392,483 wheat, 575,612 corn; on lakes, 47,465 wheat, 202,143 corn.

The Times of Oakland, Cal., says: The April stand of grain is the largest and best ever known in California. There is not a discouraging report from any one of the great agricultural districts of the state.

Two suicides last month outside of grain circles are said to have been caused by losses in May wheat. George H. Thomas, mayor-elect of Colorado Springs, Col., and Charles F. Hatch, of Minneapolis, president of the Wisconsin, Minnesota & Pacific Railroad, both shot themselves in the head.

The stocks of grain in Chicago elevators and afloat last Saturday evening were 3,611,225 bushels of wheat, 1,959,925 bushels of corn, 4,163,545 bushels of oats, 685,886 bushels of rye, and 47,665 bushels of barley. Total, 10,447,706 bushels of all kinds of grain, against 9,367,127 bushels a year ago.

W. H. Kent, a farmer living near Winterset, Iowa, was recently arrested for using the mails for lottery purposes. He had a scheme to sell corn for two dollars a bushel and throw in a ticket for his gift enterprise. According to the circulars which he sent through the mail the prizes aggregated \$100,000.

According to the New York Exchange the visible supply of grain on May 11, was as follows: Wheat 23,550,475 bushels, decrease, 1,420,259 bushels; corn 11,284,420 bushels, decrease 829,431 bushels; oats 6,763,655 bushels, decrease 379,483 bushels; rye 1,263,799 bushels, decrease 66,429 bushels; barley 599,380 bushels, decrease 136,238 bushels.

London's latest novelty in the way of a joint stock enterprise is a limited liability bucket shop. It is said that the object of the limitation is to avoid responsibility in the event of losses being incurred. The liability of the American bucket shop has always been limited by the sense of honor of the keeper, which as a rule is overcome by his love of gold.

A recent report of the Bureau of Statistics shows that 63.51 per cent. of our breadstuffs exported last year went to Great Britain and Ireland; 7.18 per cent. was sent to British North American provinces; 6.81 per cent. to France; 5.83 per cent. to the West Indies; 4.77 per cent. to South American countries, and .95 per cent. to Germany. No country not included in the above received more than .74 per cent.

Although the Railroad and Warehouse Commission of Minnesota denies that John J. Randall of Winona has been appointed to succeed Chief Grain Inspector James, whose term of office expires with the present crop year, still it is stated on good authority that Mr. Randall will be the next chief grain inspector, and that C. N. Reese will be chief deputy at Minneapolis, and William McManus will be weighmaster at Duluth.

Below is given the visible supply table as prepared by the Secretary of the Chicago Board of Trade for the week ending May 11, 1889. Comparisons are for the same week last year and for week ending May 4, 1889:

	May 11,	May 4,	1888.
Wheat, bushels.....	23,550,475	25,275,875	29,271,840
Corn, bushels.....	11,284,420	12,113,242	6,966,925
Oats, bushels.....	6,763,655	7,142,531	4,108,297
Rye, bushels.....	1,263,799	1,427,110	242,886
Barley, bushels.....	623,704	736,171	549,036

Some time ago a person residing in Egypt found a few grains of wheat in the winding sheet of a mummy, believed to have been rolled up 3,000 years ago. He planted the wheat and raised four healthy stalks, each bearing thirteen distinct ears. Part of the product he sent to a relation in Oregon, where it was planted recently. If the climate produces no change the stalk will bear an ear something like a small pineapple. It is something surprising that some of the persons experimenting with mummy wheat have not raised a crop of mummies.

The wheat acreage of Maryland is larger this year than it has been for a number of years. The Baltimore Journal of Commerce estimates the yield at fifteen bushels per acre, and the total crop at 8,559,600 bushels. Last year the yield was 14.5 bushels per acre. In Virginia the acreage is the largest it has been since 1884. The wheat crop is estimated at 5,247,363 bushels. In Pennsylvania the acreage is large, and the crop is estimated above any year since 1884. The yield per acre is estimated at six-tenths of a bushel more than in 1884. In West Virginia the acreage is not much above the average, but the estimated yield and crop are better than any year since 1884.

Press Comment.

THE TRUST IS FRANK.

The elevator men of St. Louis have formed a combination for the avowed purpose of stopping ruinous competition. That is frank and candid at all events.—*St. Paul Journal of Commerce.*

SOMETHING LACKING STILL.

Also there is an elevator trust, and now it only needs a combination between the elevator boy and the sleeping-car porter to put a ball and chain upon American existence.—*Pittsburg Press.*

BETWEEN THE DEVIL AND THE DEEP SEA.

It is said the Board of Trade of this city has on its list of accredited correspondents not far from 200 institutions which are believed to be "bucket shops." The state law forbids the furnishing of quotations to those places, but under the ruling of the Supreme Court the onus of proving their gambling character rests on the shoulders of the Board, which thus finds itself between two fires and powerless to refuse the furnishing of aid and comfort to its worst enemies. The situation is an awkward one, and there are no indications of speedy relief from the embarrassment.—*Chicago Tribune.*

IS SURPRISED.

Our consul at Baltimore expresses his surprise that in Europe Indian corn is mostly used for feeding stock; for he assures us that as a food product it is, for man as well as beast, more nutritious than any other staple in the world. This seems at least to be the opinion in America, where, though breadstuffs of all kinds abound, the consumption of maize—generally called there for shortness, "corn"—is thirty-two bushels per head, as against only four and a half bushels of wheat. The total annual value of the maize now grown in the United States is estimated at 129,000,000 sterling, while that of the wheat crop falls short of one-half that sum.—*The Miller, London.*

OUR RIVAL, AUSTRALIA.

Think of it! Australia, that "majestic land in the southern hemisphere," with all its "illimitable capacity for wheat-growing," with all its "irresistible attractions for immigrants," is actually importing wheat from the United States! In one day, March 16, one wheat cargo of 75,000 bushels cleared from San Francisco for Australia, and four other cargoes, aggregating 275,000 bushels, were chartered. Since that date the Australian demand has continued, and it begins to look as though Australia, instead of becoming a reliable and important producer of wheat for Great Britain, is to become an important consumer of the wheat of the United States. It is curious to recall the predictions made of the damage to American wheat-growing that was to be wrought by Australia. Modern crop prophets are a very unreliable and onery set of persons in every way.—*Milling World.*

MANITOBA GRAIN AFFAIRS.

Prices this year in Manitoba have all been in favor of the farmer, against the dealer, prices having ruled high during the time the bulk of the wheat was being marketed by farmers, but declining just about the time dealers were loaded up with the stuff. Prices at Chicago have declined about 45 cents from the top figure reached this season, and nearly half of this decline has been within the last few weeks. Montreal is quoted now at about 15 cents under the top price of a few weeks ago. * * * Seeding operations progressed steadily last week. Most of the wheat was in the ground over a week ago, and is now showing up nicely. A few backward farmers, however, were sowing wheat last week. It is said that frozen grain sown is apparently coming on all right. Work on the farms last week was mostly given to plowing for later spring crops, such as oats and barley.—*Winnipeg Commercial.*

THE NEW YORK BUCKET SHOPS.

It will be remembered that from the outset of the discussion as to the best means of extirpating the "bucket-shop" evil we have steadily taken the position that bucket-shop keepers could not be convicted of gambling under the penal code of the state of New York as it stands at present. We contended from the first that in order to secure such convictions legislation must be passed bringing the business of bucket shopping specifically within the provisions of the penal statutes against gambling. The soundness of this position was confirmed by the decision of the General Term of the New York Supreme Court in reversing the conviction of Todd, the bucket-shop proprietor, some months ago. Judge Brady, who rendered the decision, declared in effect that the remedy for the evil lay with the legislature instead of with the courts, and that legislation specifically prohibiting bucket-shopping would be necessary. This view seems to be accepted by the legislature of the state, which has during the week passed a bill amending section 343 of the penal code, which prohibits wagers, betting and gambling, so as to render the conviction of bucket-shop keepers possible.—*Bradstreet's.*

WATERWAYS

One of the headgates in the Welland Canal was carried away by a steam barge May 3, and navigation was delayed for a few days.

There were 90 boatloads of grain started out of Buffalo on May 1, with the opening of the Erie Canal, of which 79 loads were of corn and 11 loads of wheat.

The largest grain cargo that ever passed through Welland Canal was taken down recently by the Algonquin. It comprised 71,500 bushels of corn, the tolls of which amounted to \$417.98.

Grave charges were recently made in the Canadian Senate against the Superintendent and Assistant Superintendent of the Welland Canal. If they prove true a change will undoubtedly be made in the management of the canal.

The Illinois Senate and House of Representatives recently passed a resolution requesting the Senators and Representatives of the state in Congress to use their best endeavors to secure legislation that will result in the making of a survey for the construction of a ship canal connecting Lakes Michigan and Superior.

The Cologne Gazette says that the Prussian Government has given a subsidy of 6,000,000 marks toward the making of a canal that will join the rivers Elbe and Trave. This canal will make it possible for vessels to go from the North to the Baltic Sea, without going around the Danish peninsula.

The Pennsylvania Legislature recently passed a resolution authorizing the Governor to appoint a committee to survey routes and report on the feasibility of the projected ship canal which is to connect Lake Erie with the Ohio River. The commission is to consist of five members, three of whom are to be civil engineers. Of the routes suggested for this canal, one is by way of Beaver River through Lakes Conneaut and La Boeuf to Lake Erie; another by way mainly of the Allegheny River.

The Chicago Board of Marine Underwriters made a cut on May 1, of from 20 to 30 per cent. (Lake Michigan ports excepted) in trip rates on grain. This is unusual so early in the season, but an outside company has been cutting 50 per cent. under the Board rates and something had to be done to meet it. The new rates are as follows: To ports on Lake Michigan, 25 cents; Lake Superior, 35 cents; Lake Huron, Sarnia and Detroit River, 25 cents; Georgian Bay, 30 cents; Lake Erie, 30 cents; Lake Ontario, 45 cents; Ogdensburg, 50 cents; Montreal, 75 cents. These rates are net and on class A.

The cost of constructing and improving the Suez Canal up to the present year was £20,234,985. The first year in which there were any profits was 1872, when they were £82,851. The high-water mark was reached in 1883, with profits amounting to £927,499. In 1887 they were £627,284, or less than any year since 1880. The receipts the first year in which the canal was opened for traffic were £754,532. In 1883 they were £2,740,933, the total receipts up to the close of last year having been very nearly £25,000,000. The par value of the shares is 500 francs, and they have fluctuated from 165 in 1871 to 3,550 in 1882, the average value in 1886 having been 2,095. The number of vessels passing through the canal has increased in sixteen years from 486, with a net tonnage of 436,609, to 3,100, net tonnage 5,767,656.

The aggregate value of American vessels engaged in the lake marine and given a rating in the Inland Lloyd's insurance register for 1889 is \$43,522,700. Of this amount Cleveland owns a little more than \$10,000,000 worth, according to the Cleveland Plain Dealer. In addition to the above total there are a number of vessels now building to be launched this season, and there are also a large number of vessels engaged in the lumber business without ratings, so that the aggregate American tonnage this season on the lakes will be little short of \$50,000,000. Of the 1,878 vessels rated with a total of 675,047 tons, 573 are schooners, 543 propellers, 418 tugs, and 301 lake barges. The tonnage of the propellers is 361,920, or one-half of the total. Their value is placed at \$31,124,300—about 75 per cent. of the total tonnage rated.

The American canal at Sault Ste. Marie is to have a new lock which will be the finest in the world. It will be 800 feet long and 100 feet wide, with 20 feet of water on the miter sill. When it is finished four large boats can be locked through at the same time. The present lock is 515 feet long, 80 feet wide, with 17 feet of water on the sill. The two locks first built were 350 feet long, 70 feet wide, with 13 feet of water on the sill. At that time the locks were laughed at and the expenditure was thought to be a useless one. It soon became necessary to make the lock 100 feet longer, and that proving inadequate the canal was made 65 feet longer. Yet that is now too small. In their day the old locks were the finest in the world, just as the new lock will be the grandest ever built. Its walls will be straight, so that vessels can enter alongside instead of the steamer entering first as now. This will save a great deal of time, the gates being the full width of the lock. There will be two solid walls of the heaviest kind of masonry, a quarter of a mile long and forty-four feet wide, or equal to a wall half a mile long, forty-four feet high, and proportionately wide at the bottom. The lock

is planned to the limit of lake carriers, for twenty feet will always be the limit in draught of lake carriers because of Lake St. Clair.

Capt. William S. Marshall, the United States Engineer at this point, in speaking of the Illinois and Michigan Canal, said: "The sewerage part of the question does not concern me as an engineer. I look at it as a bad business investment to dig a twenty-two-foot channel for boats which could not get down the Illinois and Mississippi rivers drawing more than five feet. Eleven million dollars has been spent in work on the Mississippi without raising the water an inch, and there is not enough money in the National Treasury to give a channel to float lake vessels to the Gulf. Even if there were enough water lake vessels would not run down the rivers, for they are not built for that sort of navigation."

A strong effort is being made in Canada to have the Government canals closed from Saturday midnight till Sunday midnight. The Montreal Corn Exchange is opposed to this, and at a recent meeting passed the following resolution unanimously: "Resolved, that the hours during which the canals were last year closed on Sundays, namely, from 6 A. M. to 9 P. M., afford opportunity for all lock and vessel men concerned to properly observe the day of rest, and that in the opinion of the association any further interference with the passage of vessels by extension of hours would be quite unnecessary and would seriously interfere with the interests of inland navigation and with the ocean shipping trade of this port."

The Eads scheme of a ship railway across the Isthmus of Tehuantepec, of which little has been heard since the death of the projector, is once more brought to the attention of the public by the proposal of the Mexican Government to still further enlarge its concessions by guaranteeing 5 per cent. interest on \$60,000,000, the estimated cost of the plant, or, in other words, to make good any deficit there may be in its earnings to the extent of 5 per cent. The original concessions, which were made to Mr. Eads in 1881, were in themselves liberal, as they granted 1,700,000 acres of land, liberation from duties, exemption from all taxation, the right to establish coaling stations and import coal free of duty, and guaranteed one-third of the net revenue of the company for fifteen years, equal to \$1,250,000 per annum.

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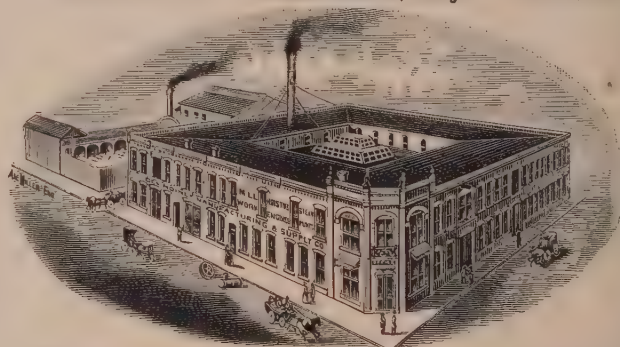
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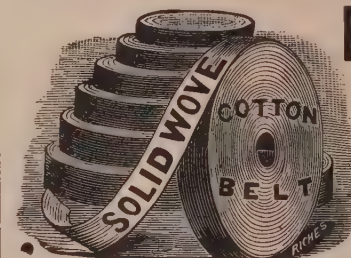
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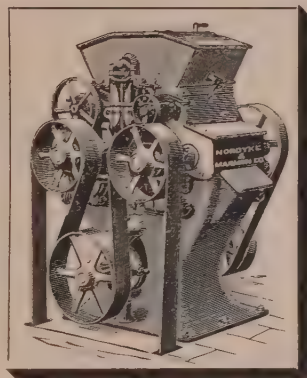
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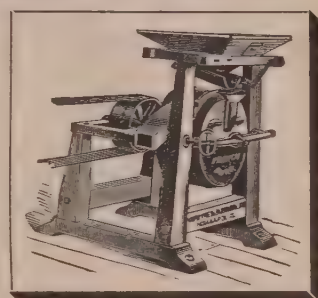


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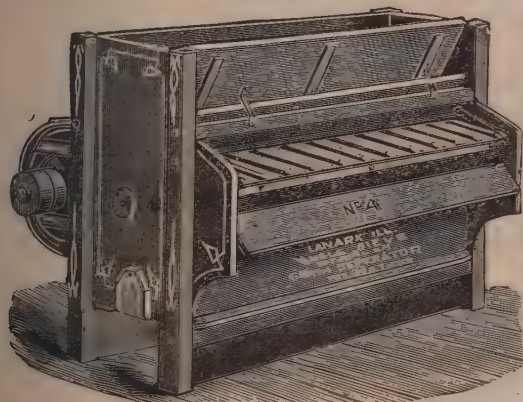
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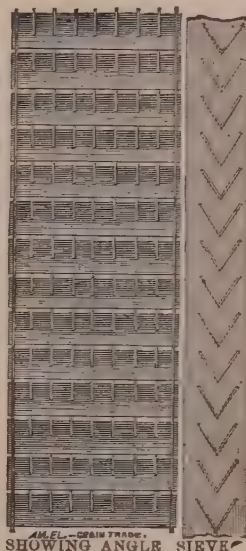
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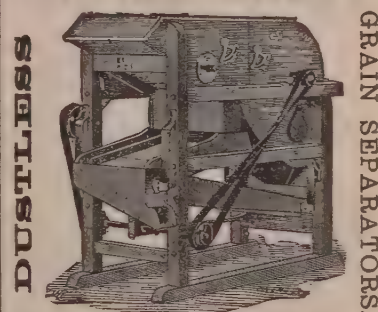
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What we claim for the "Champion" Oat Clipper over all others is:

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6. Takes less power than any other clipper of same capacity.
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The machine is set up complete when leaving shop, all ready to put into place.

To responsible parties we will ship clipper on 30 days trial, IF NOT SATISFACTORY TO BE TAKEN OUT AT OUR EXPENSE.

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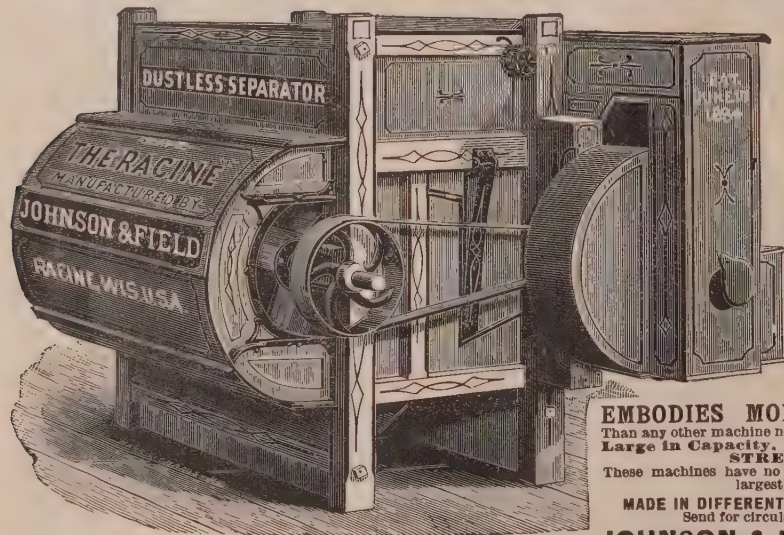
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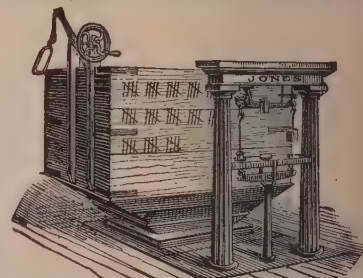
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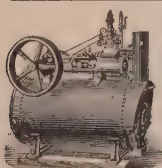


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and Cement,**

152 TO 158 MERWIN ST.,

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Send for Circular and Price
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ELEVATOR ENGINES.

Upright and Horizontal, Stationary and Semi-Portable.

ALL SIZES UP TO SIXTEEN HORSE POWER.

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Eastern Office: 110 Liberty St., New York.



THE LOTZ PATENT
GRAIN SHOVELING
MACHINE

FOR UNLOADING CARS.

Howard Iron Works, BUFFALO, N.Y.

Sole Manufacturers for the United States.

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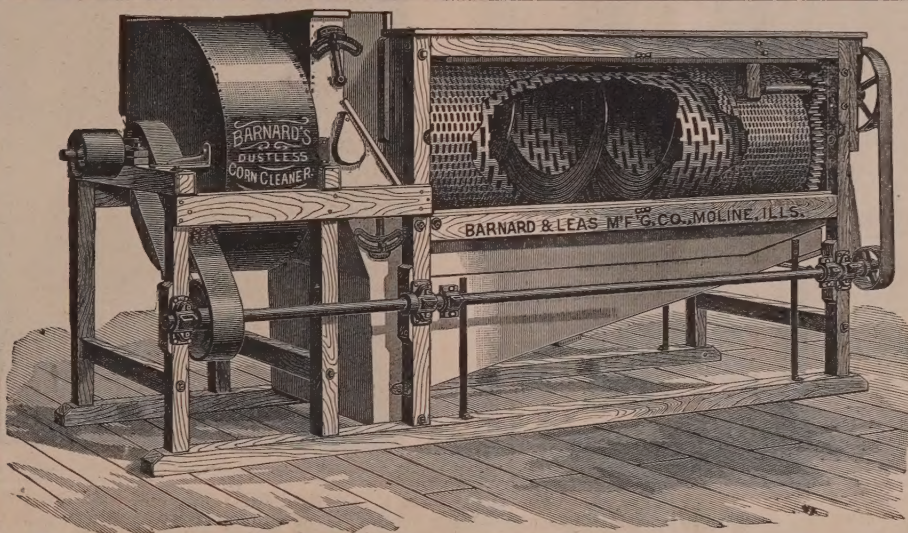
Moline, Illinois.

ELEVATOR MACHINERY.

COMPLETE ELEVATOR OUTFITS.

VICTOR :: CORN :: SHELLER.

BARNARD'S
Dustless Three Sieve
ELEVATOR
—AND—
WAREHOUSE
SEPARATOR



BARNARD'S
New Horizontal
SMUTTER
—AND—
SCOURER.
Especially adapted
for Warehouse
Purposes.

—BARNARD'S—

Improved Double Screen Dustless Corn Cleaner with Shaker.

FULL LINE SPROCKET WHEEL PATTERNS.

Shafting, Pulleys, Hangers, Boxes, Link Belting, Elevator Buckets, Iron Elevator
Boots, Dump Irons, Belting.

ELEVATOR SUPPLIES OF EVERY DESCRIPTION.

Messrs. BARNARD & LEAS MFG. CO.

BOWLING GREEN, OHIO, Nov. 16, 1888.

GENTLEMEN—Inclosed find draft for \$130.00, payment invoice Sheller. Think we have the best Sheller in the market. We have two of your Shellers in use. Would put in the third one if it were not so late in the season. Think we could save corn enough to soon pay for another one. Anyone making inquiry about Shellers, REFER THEM TO ROYER & COON.

Respectfully yours,

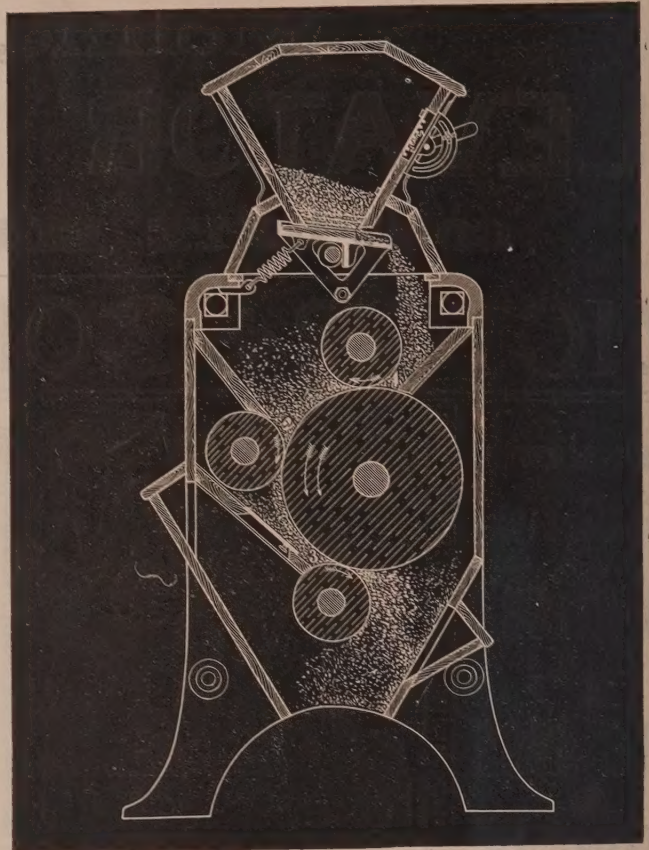
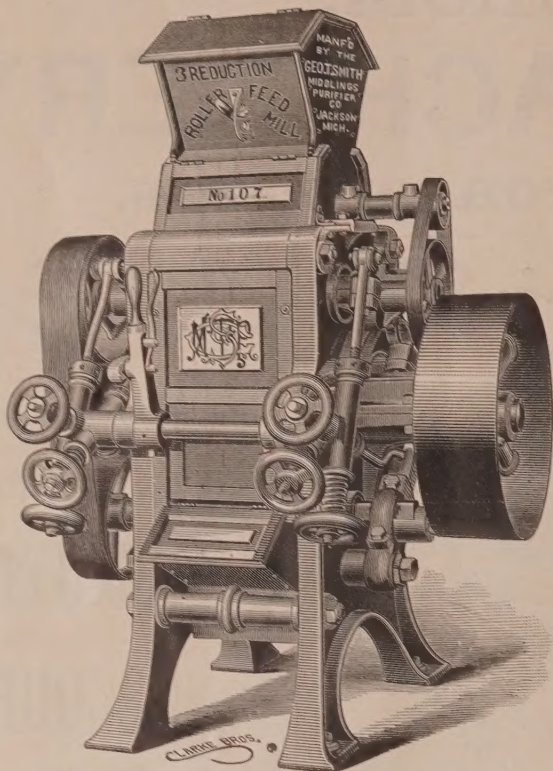
ROYER & COON.

SEND FOR PRICES AND DISCOUNTS.

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M. M. SNIDER, Sales Agent, 1323 CAPITOL AVE., - DES MOINES, IOWA.	W. E. GORTON, Agent, 87 Water St., - - - - - PITTSBURGH, PA.
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THREE REDUCTION FEED MILL.



Shelby Roller Mill Co.,

SHELBY, MICH.

January 12, 1889.

You ask what we think about the 12-inch Feed Mill. The miller says it is a "Daisy." We are grinding from 60 to 75 bushels of corn and oats per hour. We did not expect any such mill, as 25 to 40 was all we asked for. It is pleasing to see the farmers come to the mill with 15 to 20 bushels and ask when they can get it. We tell them to stay in the wagon, and we take the bags and open them up, and they get it all back about as soon as they are unloaded. In short, I believe we could grind 90 to 100 bushels per hour if we could get the bags off the spouts fast enough.

John Mower,

HADLEY, MICH.

December 6, 1888.

I have tried the Feed Rolls to my satisfaction, and am satisfied they are "Little Daisies." I have ground corn and oats, screenings, chess and buckwheat; in fact, they will grind anything. I send you this day draft for the rolls.

Jones & Fredericks,

BIRMINGHAM, MICH.

January 14, 1889.

The Feed Mill we purchased of you gives entire satisfaction, both to us and our customers. In three hours' time we ground 6,800 lbs. of corn and oats, and did a better job than we could have done with our burrs in twice the time. Don't think it takes more than one-half the power to run the rolls that it does the stone.

F. W. Stock,

HILLSDALE, MICH.

March 25, 1889.

GENTLEMEN:—The twelve inch Roller Feed Mill bought of you this winter, and put up in my "Litchfield" Mill, and for which I send you New York draft as payment in full, is still giving the best of satisfaction. My millers over there are saying it is the best machine they have in the mill, and are more than pleased, and best of all, I am well pleased myself, as the capacity suits me exactly. The farmers are well satisfied with the grinding we have done for them, and the proof is they are coming back and bringing their neighbors also. The large capacity is another important feature for the farmer. By the time he gets the last bag out of the wagon he can commence loading up the ground feed, so there is time saved for them. You are at liberty to refer any one in need of a "Feed Mill" to me.

"Mercer Roller Mills,"

W. Houston.

MERCER, PA.

March 14, 1889.

GENTLEMEN:—I have tested the 12-inch Corn and Feed Mill that I got of you thoroughly, on all kinds of grain, including wet corn from the crusher, cob and all, and must say that it is far ahead of any feed mill that I ever have seen. Its capacity is wonderful and requires but very little power. I drive your mill with a 6 inch single belt, without a tightener. It takes the place of a 36 inch under runner * * * Buhr Mill that requires a 12 inch double belt with tightener very tight speeded at 350 revolutions per minute, which has not as much capacity as your mill. I consider it a model of perfection.

"Forest City Roller Mills,"

Per H. Merchantell.

FOREST, OHIO.

January 12, 1889.

We have now been using your Three Reduction Roller Feed Mill long enough to test its merits, and are happy to say that it is giving entire satisfaction. It takes only one-half the power to run it with large capacity, and doing better work than when we used to drive our 3½ foot burr. The product is much better than from burr, meal finer and more even, and capacity of 12-inch mill as compared to 42-inch burr is more than double. We run the machine with 6 inch belt, whereas our burrs required 10-inch belt with tightener. To say the least, we will save the cost of making this improvement in fuel alone in a short time.

Shellabarger Mill & Elevator Co.,

DECATUR, ILL.

January 12, 1889.

Reply to your favor of the 9th inst., in reference to the Three Reduction Roller Feed Mill we purchased from you, would say that we have been using this for some months grinding our screenings, and we are very much pleased with the machine. We have used both burrs and the roller mill on the same stock, and we are frank to say that this machine does better work with less power than any other machine we have ever used.

Rice, Tapp & Givens,

PROVIDENCE, KY.

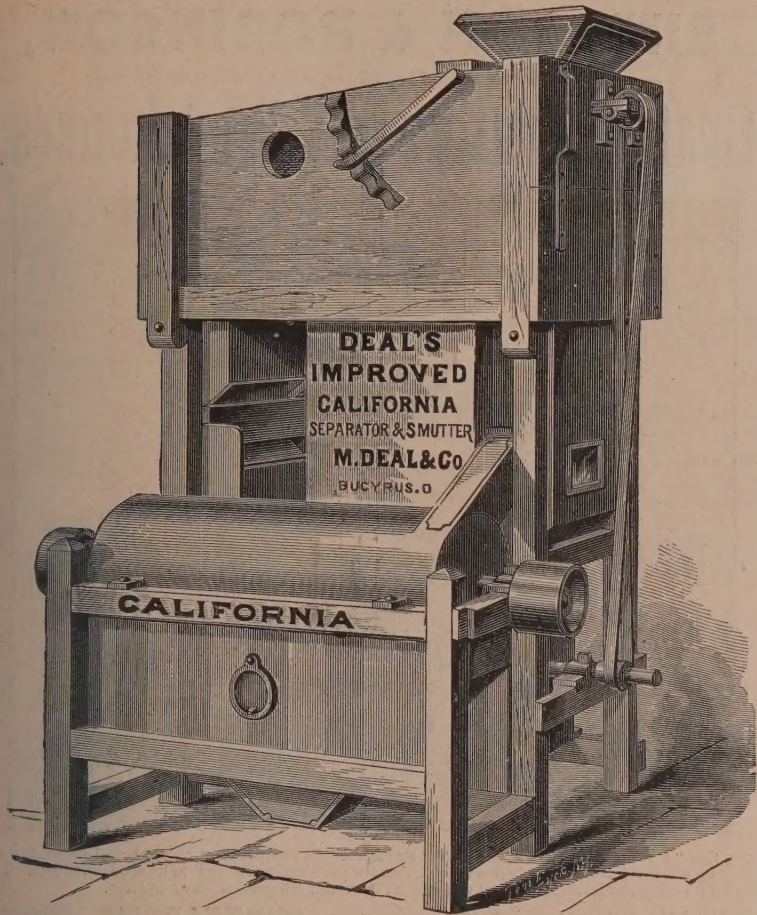
October 15, 1888.

Inclosed find check for three hundred and ten dollars and fifty cents, in full for No. 108, 12-inch Corn Roller Mill. Have never been better pleased with any machine for any purpose. We have got the mill we want, and here is your money, with our thanks to you for the genius that produced it.

Geo. T. Smith Middlings Purifier Co.

Canadian Shops, Stratford, Ont.

JACKSON, MICH.



Deal's Complete Line of California Magnetic Grain Cleaning Machinery
FOR WAREHOUSES ELEVATORS AND MILLS.

Write for Illustrated Printed Matter and Special Prices.

M. DEAL & CO., BUCYRUS, OHIO

DEAL'S IMPROVED GRAIN TESTERS

The Best, Finest Finished and Most Accurate.
NO ELEVATOR OR MILL IS COMPLETE WITHOUT THEM.

THOUSANDS IN USE.

Adopted by the Board of Trade.



MANUFACTURED IN
THREE SIZES:
Pints,
Quarts, and
Two Quarts.

WE WILL MAKE SPECIAL
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The Wholesale Trade Supplied.

WRITE FOR OUR
ILLUSTRATED LIST
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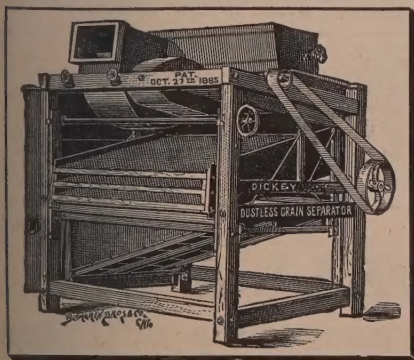
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road Property, Dwellings, Churches, Schoolhouses, Shops, Barns or Sheds, there is no better Roofing made. It is light, durable, practically fireproof, easily put on, clean and handsome. A SAMPLE WITH CIRCULAR MATTER WILL BE SENT TO ANY APPLICANT.

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Made in any desired size and capacity to accommodate the largest elevators and flouring mills, or small warehouses for hand use.

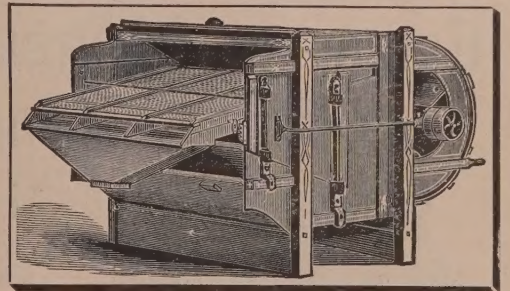
THE END SHAKE MILLS

[Motion of shoe from front to back.]

Are highly recommended for use with horse power,
AND WARRANTED TO GIVE BETTER SATISFACTION
When run in this way than any other mills made.

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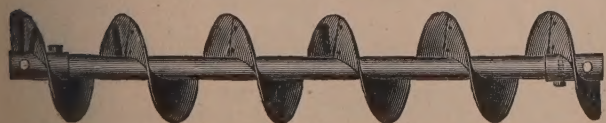
ALL PARTIES IN NEED OF CLEANERS ALLOWED
THIRTY DAYS' TRIAL
WITH PRIVILEGE OF RETURNING IF NOT SATISFACTORY.



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THE CALDWELL PATENT SPIRAL STEEL CONVEYOR,

Made of Steel, Double Bolted, Double Collared, with Extra Strong Couplings.



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THIS BUCKET is of
one piece of steel.
No Seam. No Rivets.
Light, Strong, Durable.
Discharges well at high
speed.

H. W. CALDWELL

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STILL ON TOP.

Perhaps the highest compliment that could be paid the "SALEM" Bucket is the fact that during the past few years

Its Shape Has Been So Closely Imitated



By other manufacturers as to infringe our patented rights, but experience reveals the

IMPERFECTIONS OF IMITATIONS.

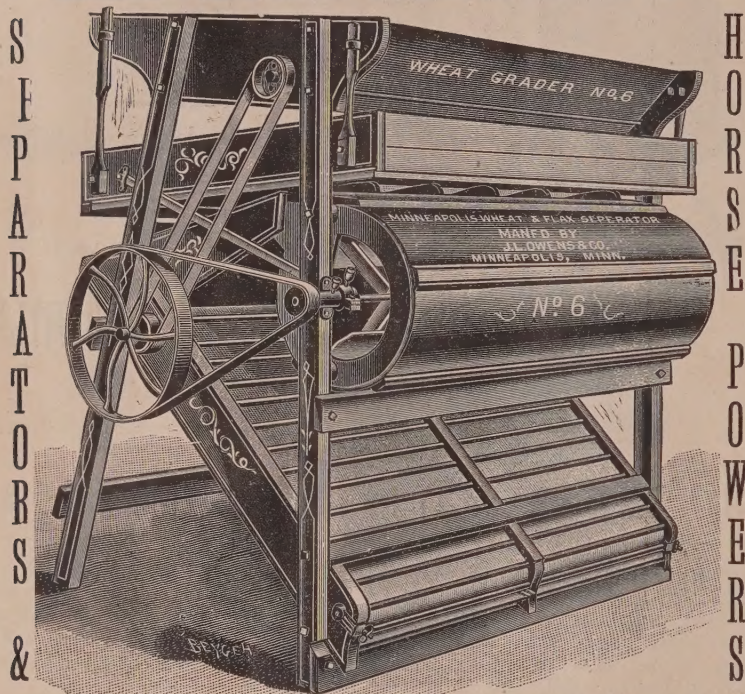
And we therefore take it as a further compliment to the "SALEM" Bucket that some of its old patrons who were induced to Try the Imitations have now returned to the "SALEM" Bucket, thereby acknowledging it to be the most satisfactory. Don't be deceived by other makes of Buckets that are claimed to be "just as good." Insist upon having the **Original and Reliable Salem Bucket**. All legitimate Salem Buckets are plainly marked with the word **SALEM**.

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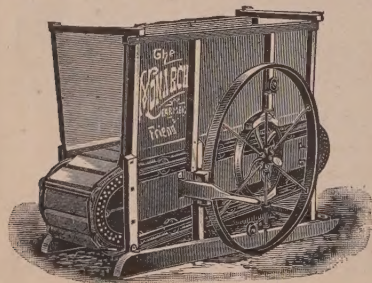
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With and Without Dustless. For Separating all foul seeds from Wheat, Oats, Barley, Corn and Flax with less than 1/4 horse power to run mill that will clean 300 to 400 bushels per hour. We manufacture 10 sizes, each having different capacity. Write for particulars and prices.

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Something New! ELEVATOR HORSE POWERS.



These Powers are
Built Especially for Elevators!

There has been a long-felt want for a practical and cheap Power in the Elevator line, and many years of experience in the manufacture of **HORSE POWERS** enables us to produce a Power which is conceded by all to be the best for this purpose. We make two styles—Adjustable Elevators and Stationary.

It Requires No Attention.
It has a Perfect Governor which makes the Motion as Steady as an Engine.

Write for Circular and Price List.
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Engineers and Builders of

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KANSAS CITY, MO.
And a large Stock of
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Special attention given to Mail Orders.

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Dealers in Timothy, Clover, Flax, Hungarian, Millet, Red Top, Blue Grass, Lawn Grass, Orchard Grass, Bird Seeds, &c.
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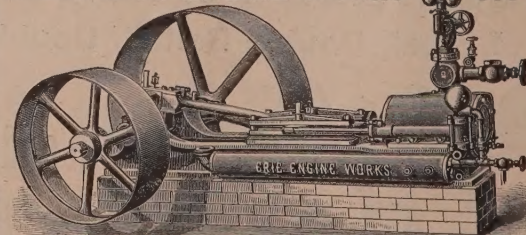
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